



OWNER'S MANUAL

Video Conference Monitor

Please read this manual carefully before operating your set and retain it for future reference.

MODEL
AVS2400

1

Safety Information



CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK
DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

FCC WARNING: This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

REGULATORY INFORMATION: FCC Part 15

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

- A suitable conduit for entries, knock-outs or glands shall be provided in the cable entries of this product in the end user.
- Caution: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.
- Holes in metal, through which insulated wires pass, shall have smooth well rounded surfaces or shall be provided with brushings.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Warning: Do not install this equipment in a confined space such as a bookcase or similar unit.

Warning: Wiring methods shall be in accordance with the National Electric Code, ANSI/NFPA 70.

Warning: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Warning: To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.

Caution: This installation should be made by a qualified service person and should conform to all local codes.

Caution: To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

Caution: The apparatus should not be exposed to water (dripping or splashing) and no objects filled with liquids, such as vases, should be placed on the apparatus.

To disconnect power from mains, pull out the mains cord plug. When installing the product, ensure that the plug is easily accessible.



LG Electronics hereby declares that this/ these product(s) is/are in compliance with the essential requirements and other relevant provisions of Directive 2004/108/EC, 2006/95/EC, and 2009/125/EC.

European representative :

LG Electronics Service Europe B.V. Veluwezoom
15, 1327
AE Almere. The Netherlands
(Tel : +31-(0)36-547-8888)

Disposal of your old appliance



1. When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC.
2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.
3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.
4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.

EEE Compliance with Directive. (for Turkey only)

Safety way to remove the battery or the battery from the equipment:

Remove the old battery or battery pack, follow the steps in reverse order than the assembly. To prevent contamination of the environment and bring on possible threat to human and animal health, the old battery or the battery put it in the appropriate container at designated collection points. Do not dispose of batteries or battery together with other waste. It is recommended that you use local, free reimbursement systems batteries and accumulators. The battery shall not be exposed to excessive heat such as sunshine, fire or the lile.

- Lamp(s) Contain Mercury, Dispose Properly.
- The lamps in this product contain mercury. Please dispose according to state, local or federal law.
- This product contains a lamp(s) which contains mercury; dispose according to local state, or federal laws.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

On Safety

This unit has been engineered and manufactured to ensure your personal safety, however improper use may result in potential electrical shock or fire hazards. In order to allow the proper operation of all safeguards incorporated in this display, observe the following basic rules for its installation, use, and servicing.

Use only the power cord supplied with the unit. In case you use another power cord, make sure that it is certified by the applicable national standards if not being provided by the supplier. If the power cable is faulty in any way, please contact the manufacturer or the nearest authorized repair service provider for a replacement. The power supply cord is used as the main disconnection device. Ensure that the socket-outlet is easily accessible after installation. Operate the display only from a power source indicated in the specifications of this manual or listed on the display. If you are not sure what type of power supply you have in your home, consult with your dealer. Overloaded AC outlets and extension cords are dangerous. So they are frayed power cords and broken plugs. They may result in a shock or fire hazard. Call your service technician for replacement. As long as this unit is connected to the AC wall outlet, it is not disconnected from the AC power source even if the unit is turned off.

Do not Open the Display:

- There are no user serviceable components inside.
- There are Dangerous High Voltages inside, even when the power is OFF.
- Contact your dealer if the display is not operating properly.

To Avoid Personal Injury:

- Do not place the display on a sloping shelf unless properly secured.
- Use only a stand recommended by the manufacturer.
- Do not drop an object on or apply impact to the product. Do not throw any toys or objects on the product screen. It can cause injury to human, problem to product and damage the display.

To Prevent Fire or Hazards:

- Always turn the display OFF if you leave the room for more than a short period of time. Never leave the display ON when leaving the house.
- Keep children from dropping or pushing objects into the display's cabinet openings. Some internal parts carry hazardous voltages.
- Do not add accessories that have not been designed for this display.
- When the display is to be left unattended for an extended period of time, unplug it from the wall outlet.
- In the presence of thunder and lightning, never touch the power cord and signal cable because it can be very dangerous. It can cause electric shock.

On Installation

Do not allow anything to rest upon or roll over the power cord, and do not place the display where the power cord is subject to damage.

Do not use this display near water such as near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool.

Displays are provided with ventilation openings in the cabinet to allow the release of heat generated during operation. If these openings are blocked, built-up heat can cause failures which may result in a fire hazard. Therefore, NEVER:

- Block the bottom ventilation slots by placing the display on a bed, sofa, rug, etc.
- Place the display in a built-in enclosure unless proper ventilation is provided.
- Cover the openings with cloth or other material.
- Place the display near or over a radiator or heat source.

Do not rub or strike the Active Matrix LCD with anything hard as this may scratch, mar, or damage the Active Matrix LCD permanently.

Do not press the LCD screen with your finger for a long time as this may cause some afterimages.

Some dot defects may appear as Red, Green or Blue spots on the screen. However, this will have no impact or effect on the display performance.

If possible, use the recommended resolution to obtain the best image quality for your LCD display. If used under any mode except the recommended resolution, some scaled or processed images may appear on the screen. However, this is characteristic of the fixed-resolution LCD panel.

Leaving a fixed image on the screen for a long time may cause damage to the screen and cause image burn-in. Make sure you use a screen saver on the product. Burn-in and related problems are not covered by the warranty on this product.

Do not shock or scratch the front and sides of the screen with metallic objects. Otherwise, it may cause damage to the screen.

Make sure the panel faces forward and hold it with both hands to move. If you drop the product, the damaged product can cause electric shock or fire. Contact an authorized service center for repair.

Avoid high temperatures and humidity.

On Cleaning

- Unplug the display before cleaning the face of the display screen.
- Use a slightly damp (not wet) cloth. Do not use an aerosol directly on the display screen because over-spraying may cause electric shock.
- When cleaning the product, unplug the power cord and scrub gently with a soft cloth to prevent scratching. Do not clean with a wet cloth or spray water or other liquids directly onto the product. An electric shock may occur. (Do not use chemicals such as benzene, paint thinners or alcohol)
- Spray water onto a soft cloth 2 to 4 times, and use it to clean the front frame; wipe in one direction only. Too much moisture may cause staining.

On Repacking

Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it in its original material.

On Disposal

- Do not dispose of this product with general household waste.
- Disposal of this product must be carried out in accordance to the regulations of your local authority.

Lifting and moving the VCS

When moving or lifting the VCS, read the following to prevent the VCS from being scratched or damaged and for safe transportation regardless of its type and size.

- Moving the VCS in the box is recommended.
- Before moving or lifting the VCS, disconnect the power cord and all cables.
- When holding the VCS, the screen should face away from you to prevent the screen from being scratched.
- Hold the top and bottom of the VCS frame firmly.
- When transporting the VCS, do not expose the VCS to jolts or excessive vibration.
- When transporting the VCS, keep the VCS upright. Never turn the VCS on its side or tilt towards the left or right.
- When moving the VCS, do not carry it by the camera.

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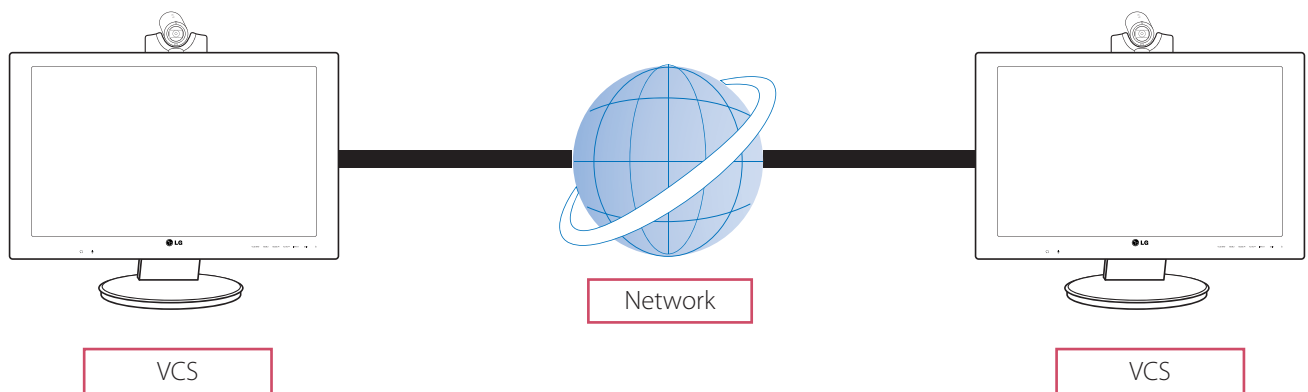
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2 Preparation

Introduction

The LG video conference monitor is designed to be used for video conferencing, enabling people in a different space such as a conference room or office to have a meeting (by seeing, listening and speaking to each other on a screen.)

Through this device, not only can executives or managers have a meeting and communicate with customers, subcontractors and coworkers in real time but you can also make a decision and interchange information immediately, saving you time and money.



Features

- IP based 1- to-1 Video conferencing system
- H.323, SIP communications
- 60.96 cm 1 920x1 080p Full HD wide LCD monitor
- 1 280x 720p, 30 fps HD Camera
- H.261 / 3 / 4 & H.239 (receive) video standard
- G.711 / 2 / 2.1C & G.728 / 9 audio standard
- AMC (Adaptive Motion Control)
- Echo cancellation for echo-free calls

Unpacking

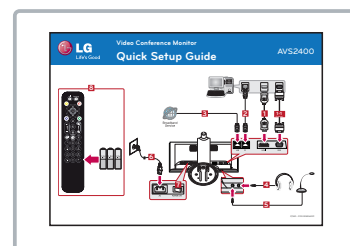
Check your product box for the following items. If there are any missing accessories, contact the local dealer where you purchased your product. The illustrations in this manual may differ from the actual product and item.



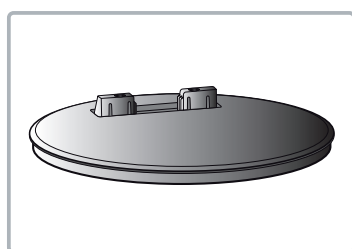
VCS Body



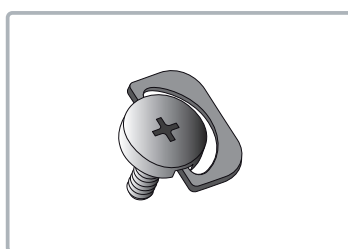
Remote control and batteries



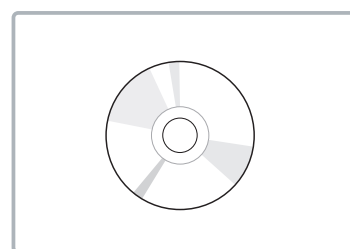
Quick Setup Guide



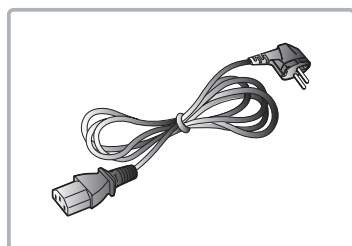
Stand base



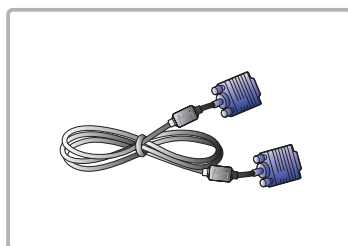
Stand locking screw



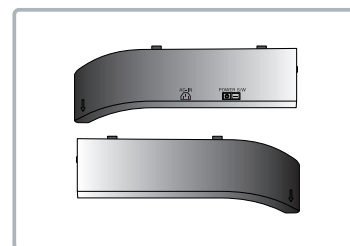
CD (Owner's Manual)



Power cord



D-sub 15 pin signal cable



Back cover

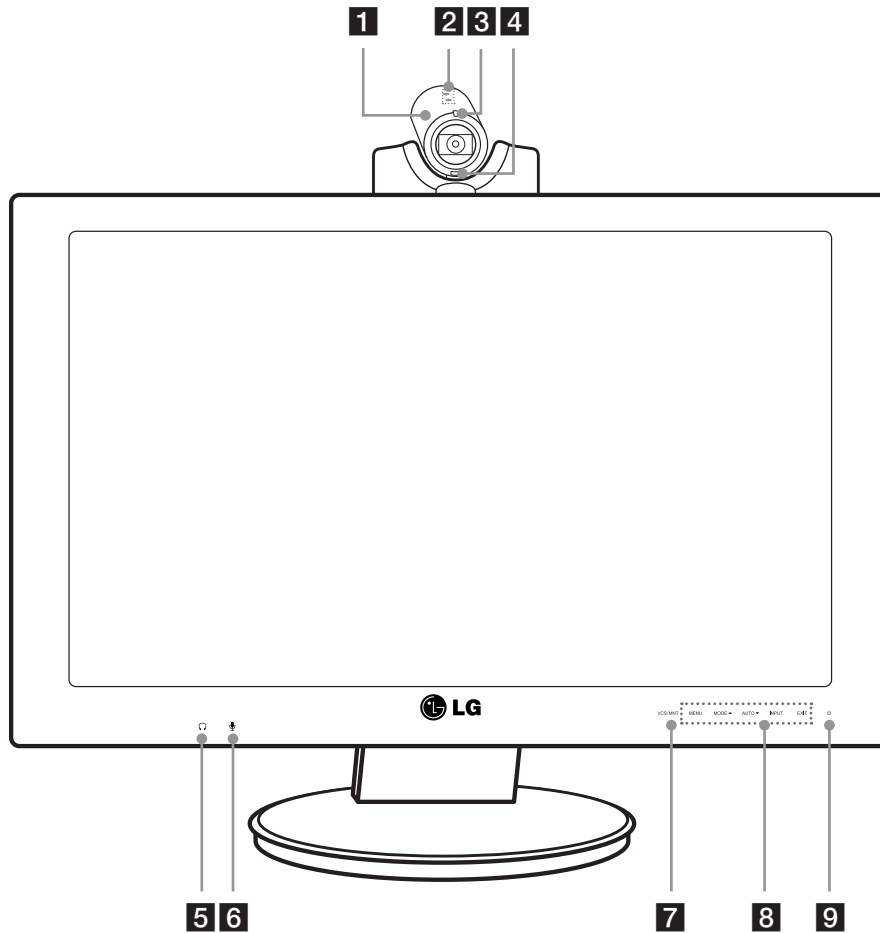




NOTE

Illustrations of the product can be unlike actual product. Some items of product can be changed depending on the circumstances.

Overview

Front of the VCS



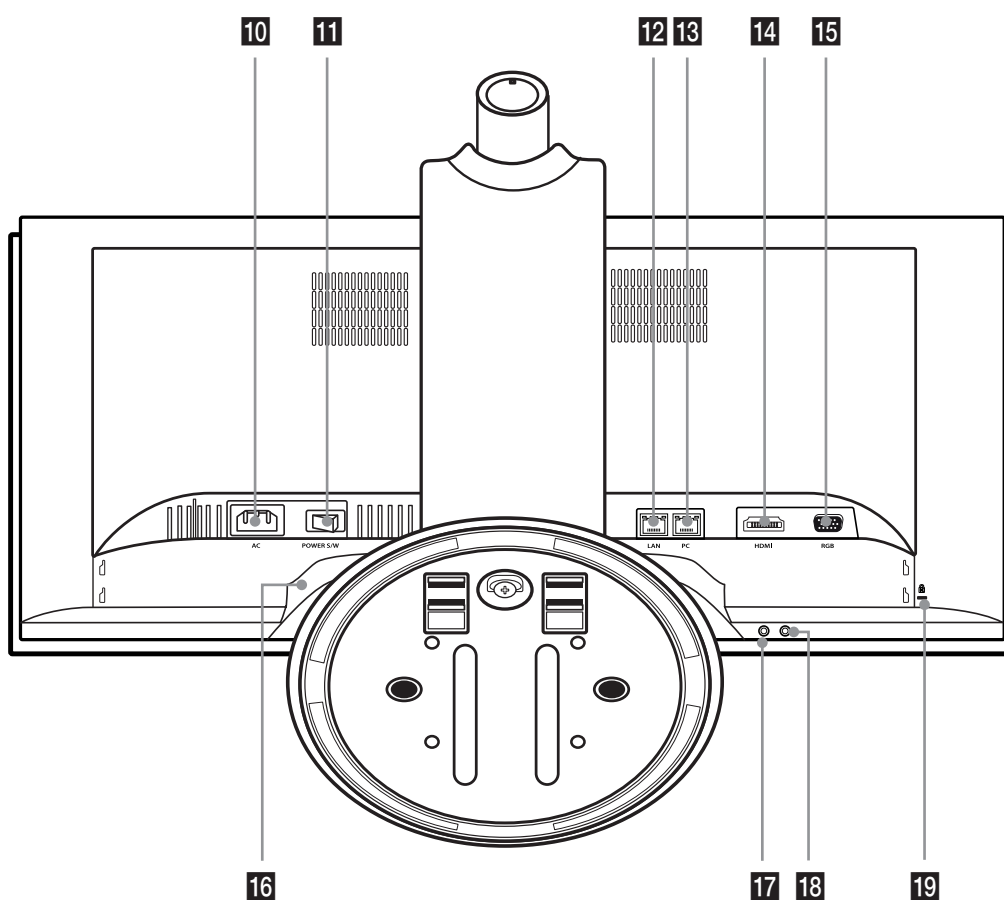
- 1** High Definition Camera.
- 2** Internal microphone.
- 3** VCS condition Indicator: Lights when the VCS turns on.
- 4** Remote Sensor: Point the remote control here.
- 5** : Logo for Headset jack.
- 6** : Logo for Microphone jack.
- 7** VCS/MNT: Changes the input source between VCS and Monitor.
- 8** OSD menu control buttons.
 - MENU: Displays the MENU setup window or moves to the previous menu.
 - MODE ▲: Displays the MODE setup window or navigates the menu items.
 - AUTO ▼: When adjusting your display settings, always press the AUTO button before entering the On Screen Display. (Only Analog Mode). This will automatically adjust your display image to the ideal settings for the current screen resolution size (display mode).
 - INPUT: When two input signals are connected, you can select the input signal (D-SUB/HDMI/VCS) you want.
 - EXIT: Exit the OSD menu.

**NOTE****OSD lock / unlock function**

You can lock the current control settings, so that they cannot be inadvertently changed.

1. Press and hold the MENU button for several seconds. The message "OSD LOCKED" should appear.
2. You can unlock the OSD controls at any time by holding the MENU button for several seconds. The message "OSD UNLOCKED" should appear.

- 9** Monitor power button: Turns the monitor on and off. The camera and system power are not turned off by the monitor power button. You can turn the camera and system power off by using the Main power switch.

Rear of the VCS

- 10** Power cord Inlet (AC IN): Connects the power plug.
- 11** Main power switch: Turns the unit on and off. **You must turn the unit on using the main power switch after connecting the power cable.** You can use this button to reset the system.
- 12** LAN port: Connects the LAN cable for this system.
- 13** PC (LAN) port: Connects the LAN cable between the VCS and your PC.
- 14** HDMI port: Connects the VCS and the PC with a HDMI cable.
- 15** D-SUB port: Connects the VCS and the PC with the D-SUB cable.
- 16** Speaker set: Two speakers are built-in.
- 17** Microphone jack: Connects an external microphone.
- 18** Headphone jack: Connects an external speaker device.
- 19** LOCK: Connects the Kensington security system cable between the VCS and a large object such as a desk.

3

Installation

Connections



CAUTION

Before setting up the monitor, ensure that the power to the monitor, the computer system and other attached devices are turned off.

Attaching the stand

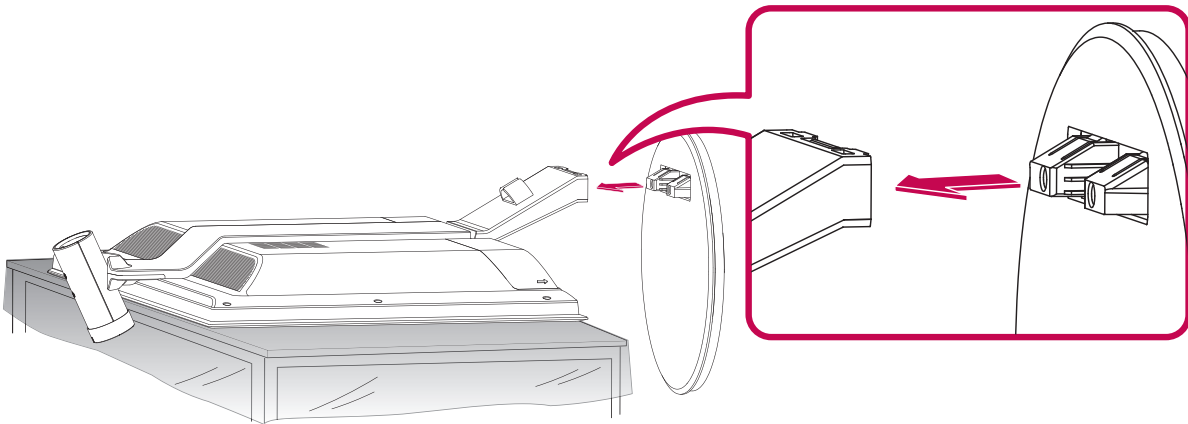
1. Lay the VCS with the screen side down on a flat surface.



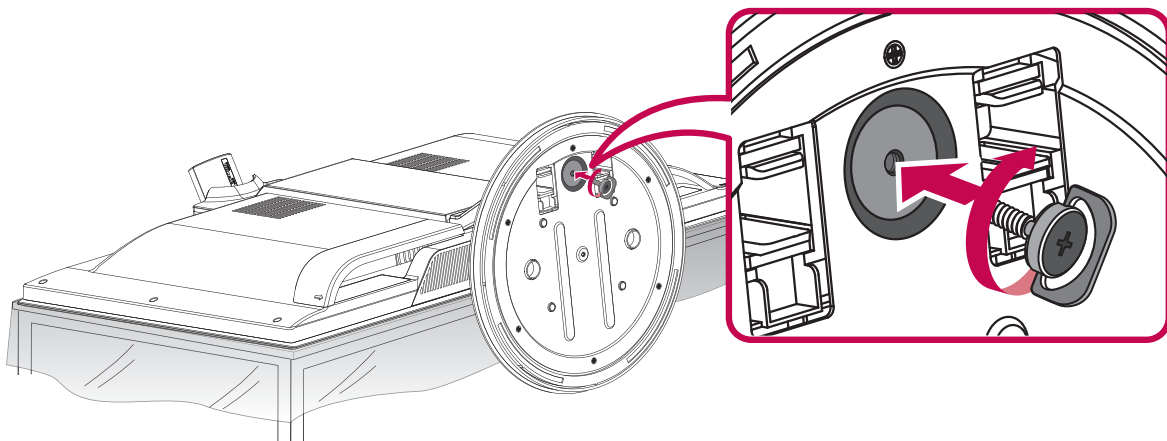
CAUTION

Lay a foam mat or soft protective cloth on the surface and then lay the VCS carefully to prevent the camera from breaking and protect the screen from damage.

2. Make sure to assemble the front and rear side of the stand. Push it into the VCS body as shown in the following illustration.



3. Turn the Stand locking screw clockwise to tighten. Do not over tighten.



**CAUTION**

Do not attempt to tighten a screw too tightly. If you do, the thread groove or the grip of the locking nut may become damaged.

Tighten a screw to fix a monitor on the stand base so that it does not separate. This may cause an accident.

- Once assembled, lift the monitor up carefully and face the front side.

**CAUTION**

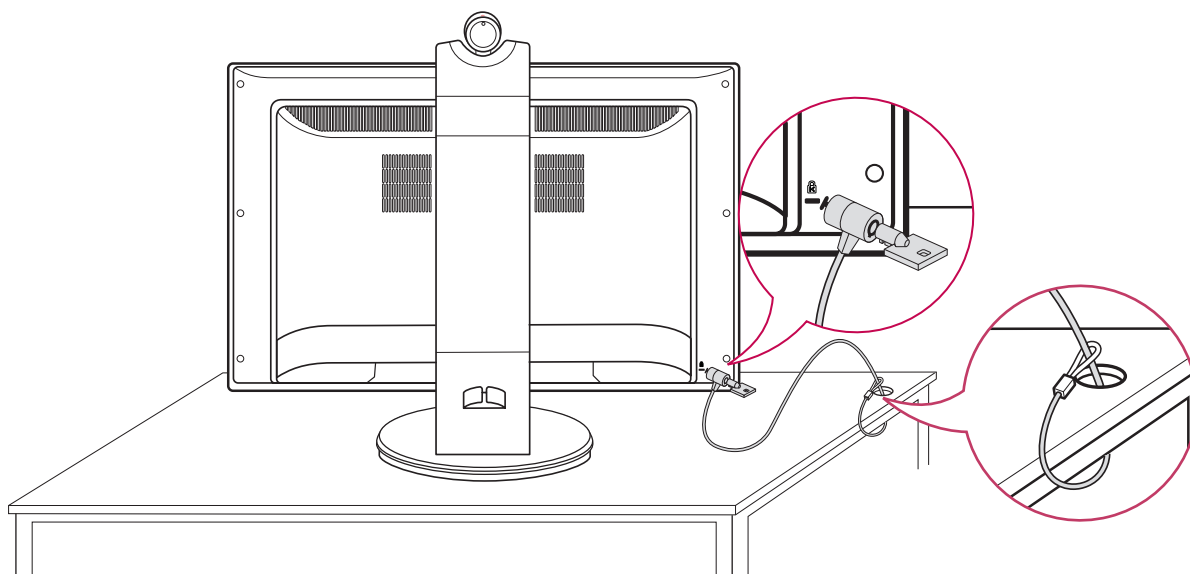
Do not make the monitor stand by holding the camera. It can be broken and damaged.

Disassembling the stand

- Place the VCS with its front facing downward on a soft cloth.
- Turn the Stand locking screw counterclockwise to disconnect the stand base from the monitor.

Using the Kensington security system (optional)

The Kensington security system connector is located at the rear of the VCS. Connect the Kensington security system cable between the VCS and a table.

**NOTE**

The Kensington security system is optional. You can obtain additional accessories from your local dealer.

Connecting to a PC

This VCS supports the Plug & Play feature and has built-in speakers.

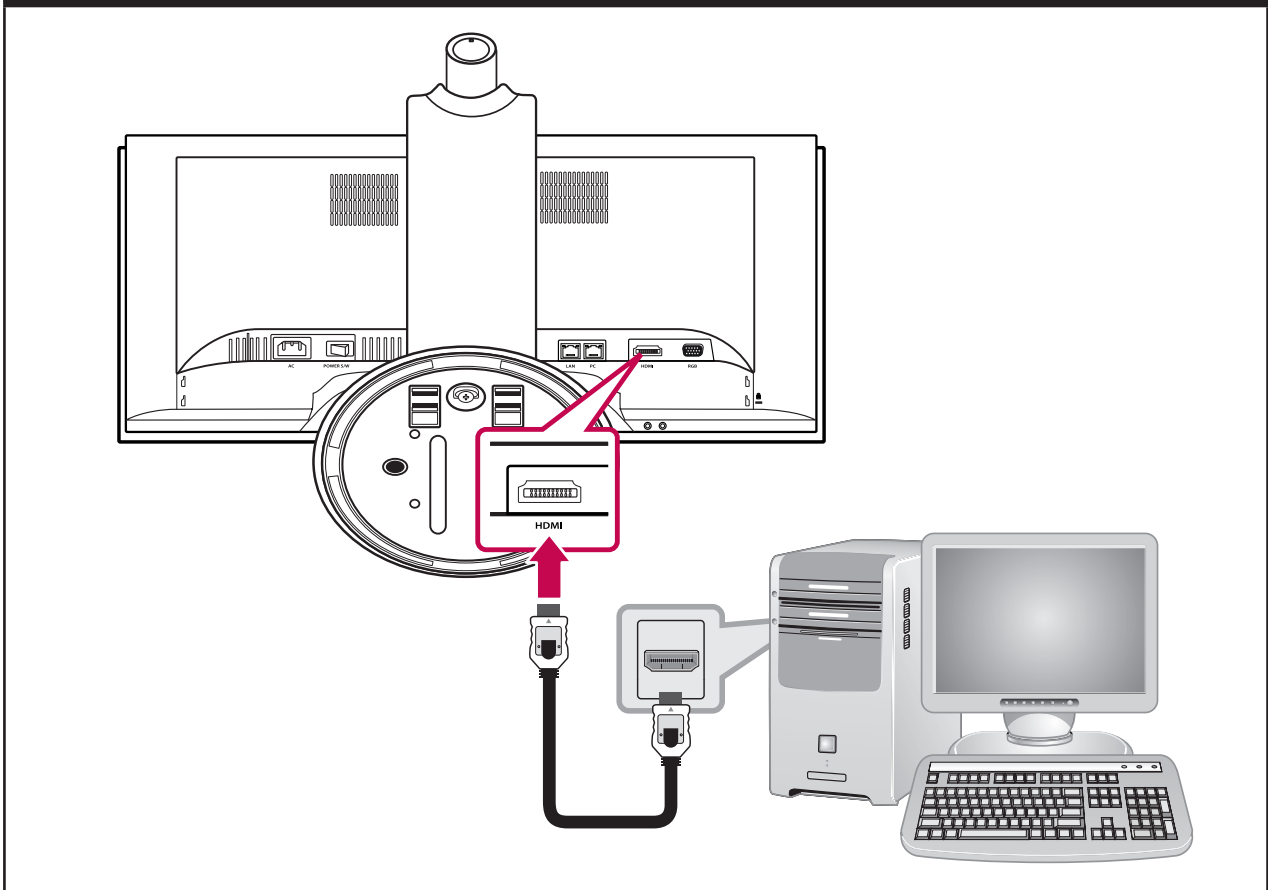
Connect the VCS according to your PC. Refer to the following table.

	HDMI	D-SUB
Video	O (Digital)	O (Analog)
Audio	O (Digital)	X

HDMI connection

Transmits the digital video and audio signals from your PC to the Monitor set. Connect the PC and the Monitor set with the HDMI cable as shown in the following illustrations.

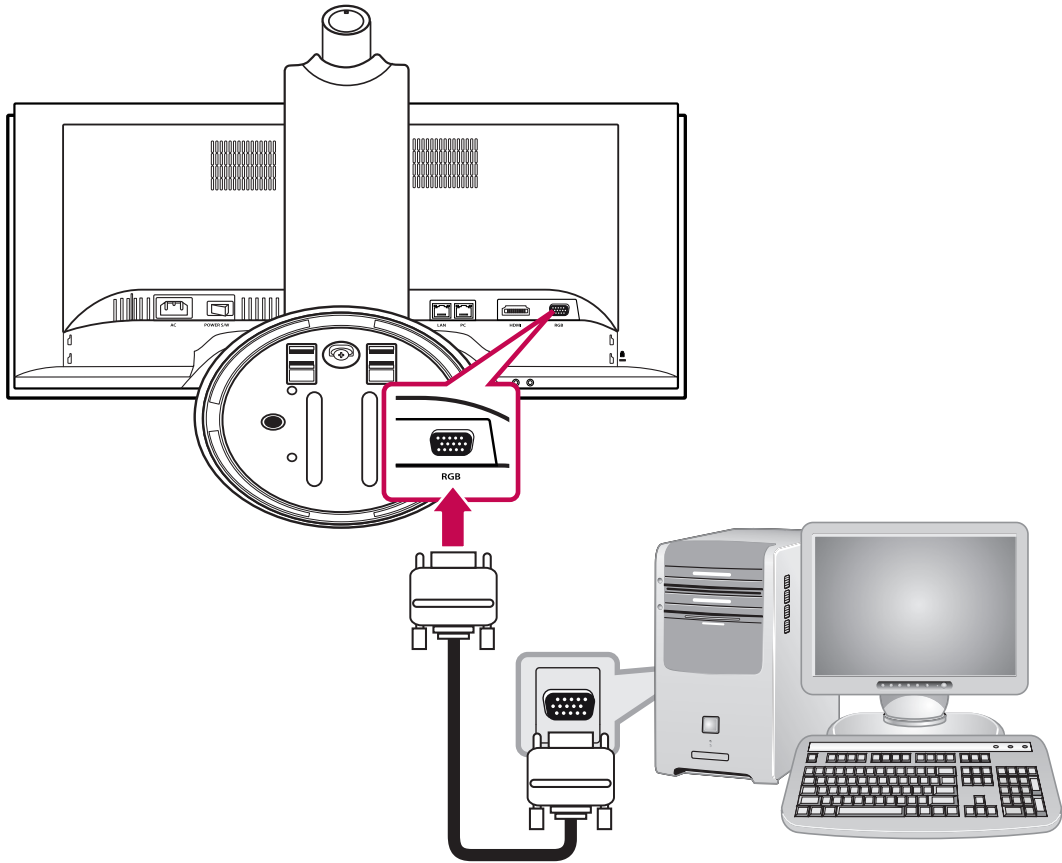
When using the HDMI cable



D-SUB connection

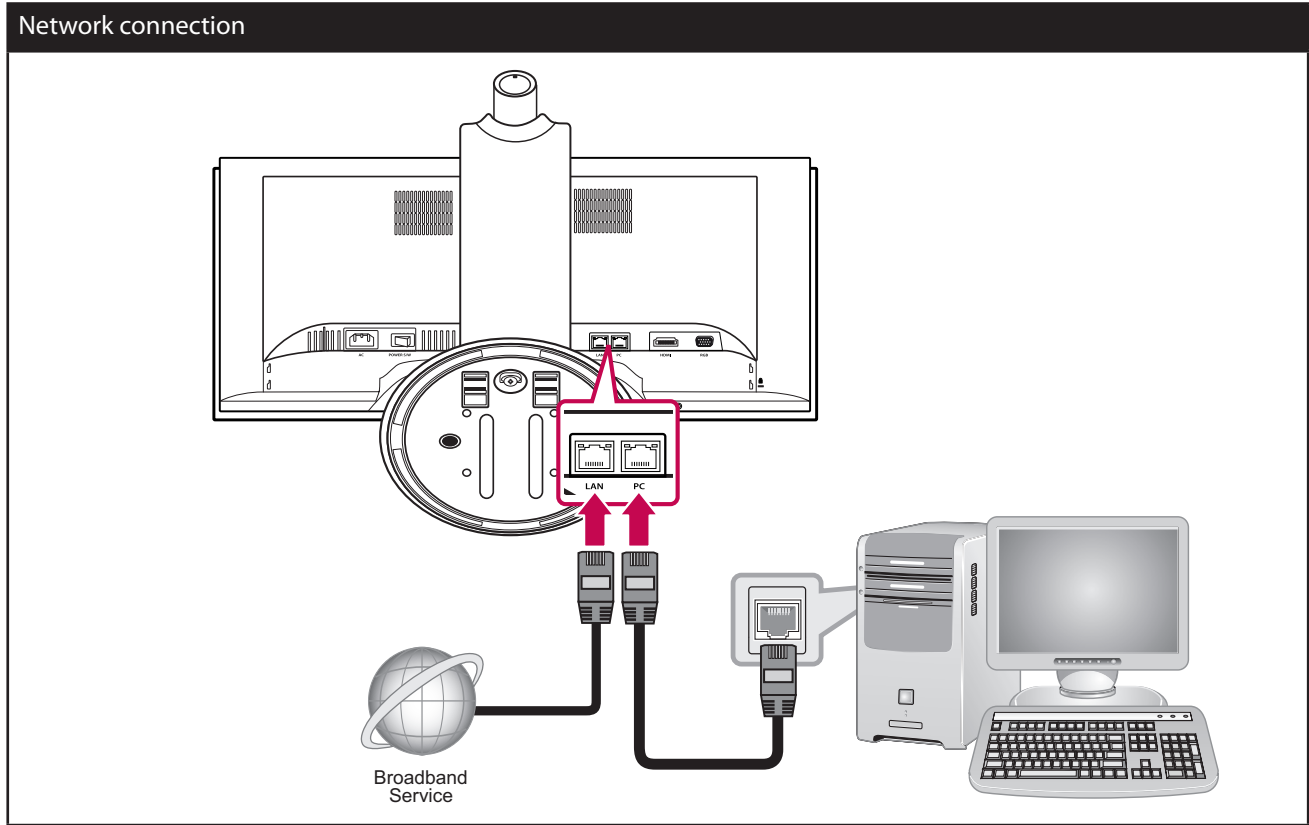
Transmits the analog video signal from your PC to the Monitor set. Connect the PC and the Monitor set with the supplied D-sub 15 pin signal cable as shown in the following illustrations.

When using the D-SUB cable



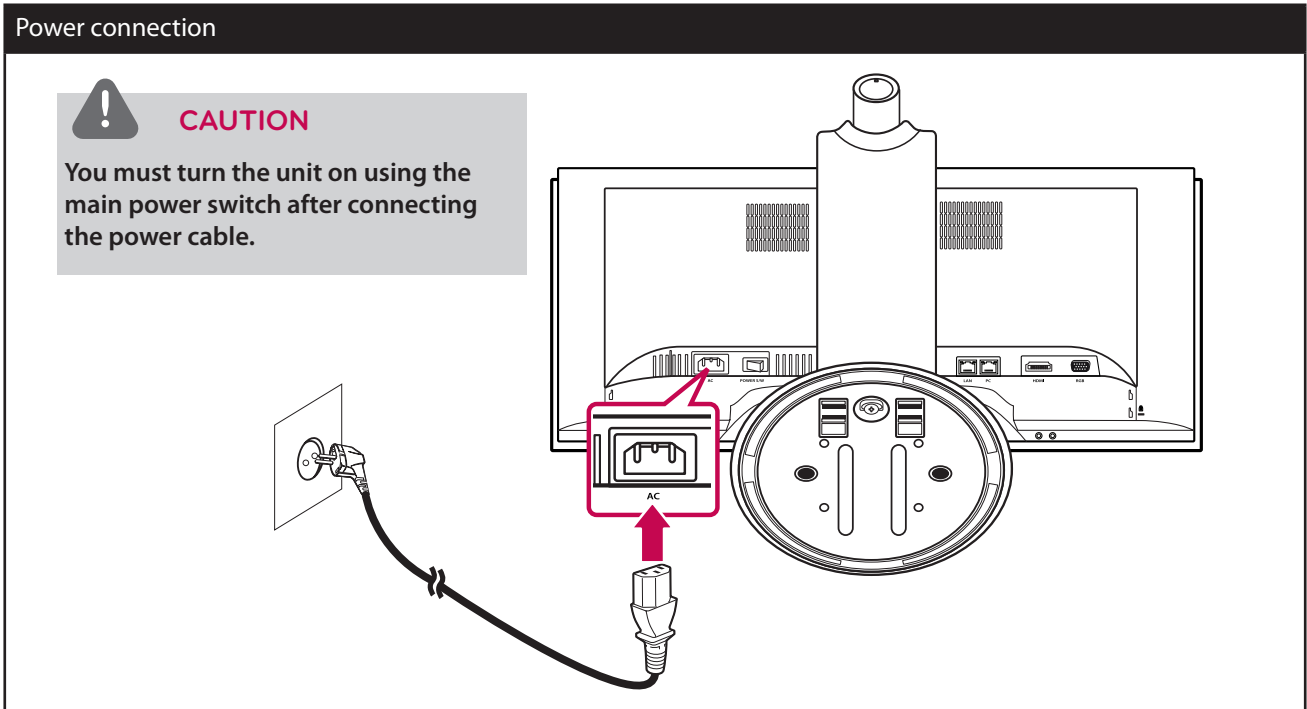
Connecting Network

Connect the LAN port on the rear of the VCS to your network using the optional LAN cable. This device has two LAN ports. One of them is for network and the other is for PC. If you connect the PC as shown below, you can use the network on the PC and VCS at the same time.



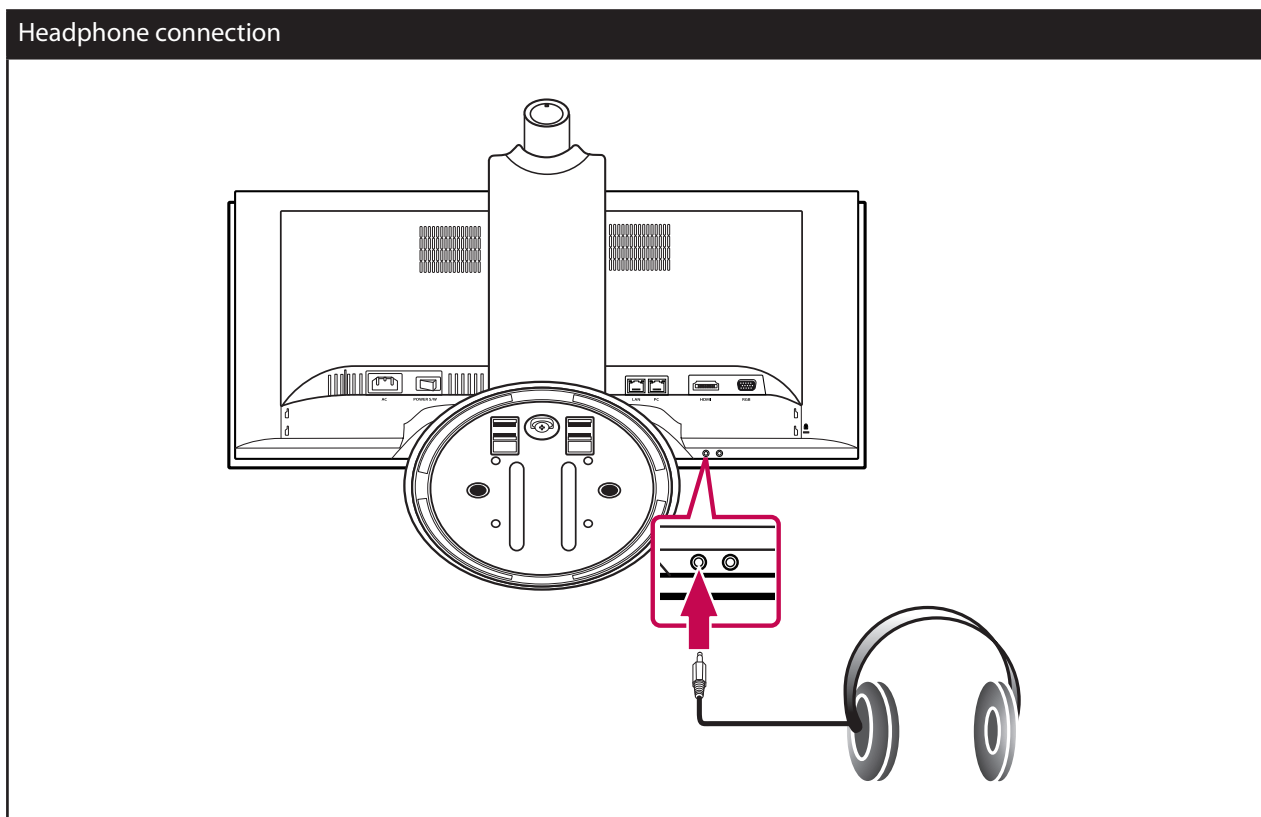
Connecting Power

Connect the power cable as shown in the following illustrations.



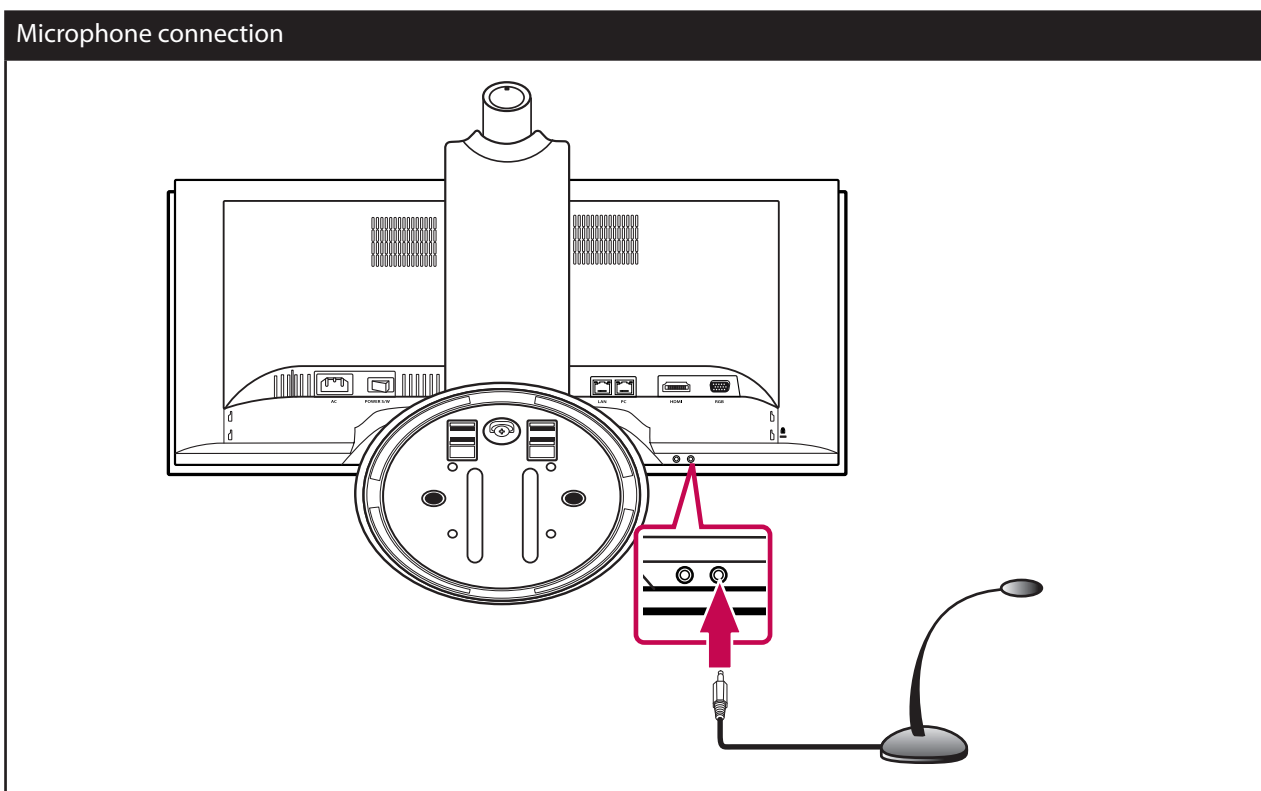
Connecting Headphones

Connect a headphone cable to the headphone jack at the bottom of the VCS.



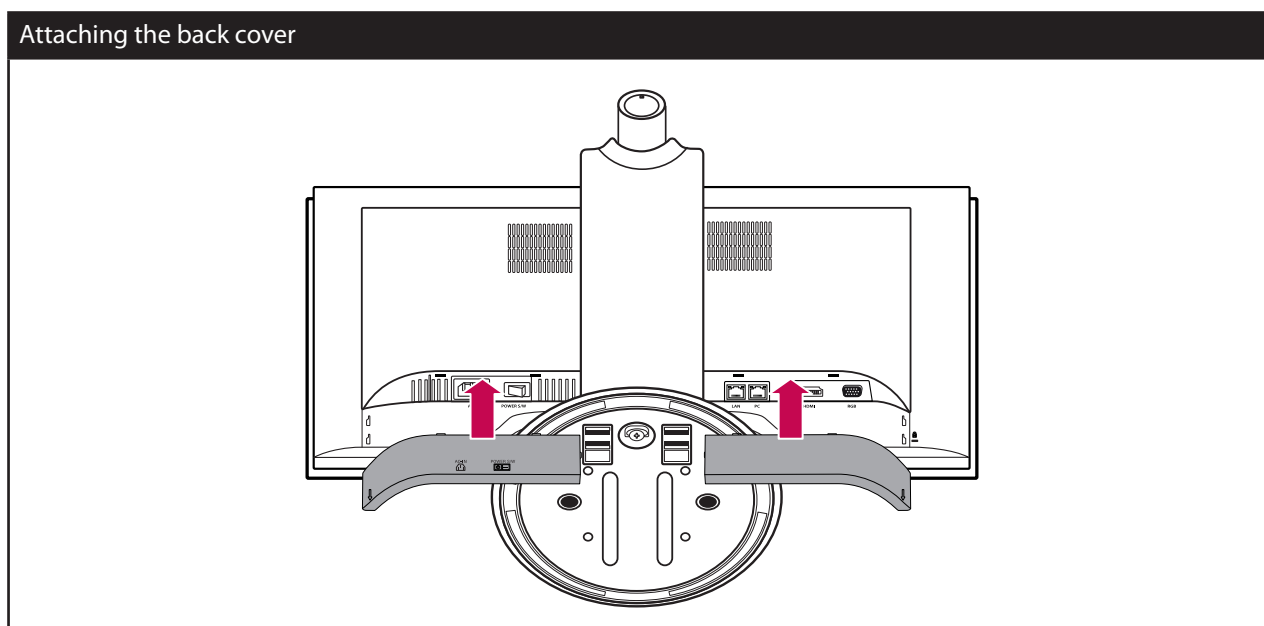
Connecting a Microphone

Connect a microphone to the microphone jack at the bottom of the VCS. To use the external microphone, you have to set the [Active Microphone] option to "Microphone In" on the **Administrator Preferences : Audio** setup menu.



Attaching the back cover

Attach the back covers when all of the connections are made as shown in the following illustrations.

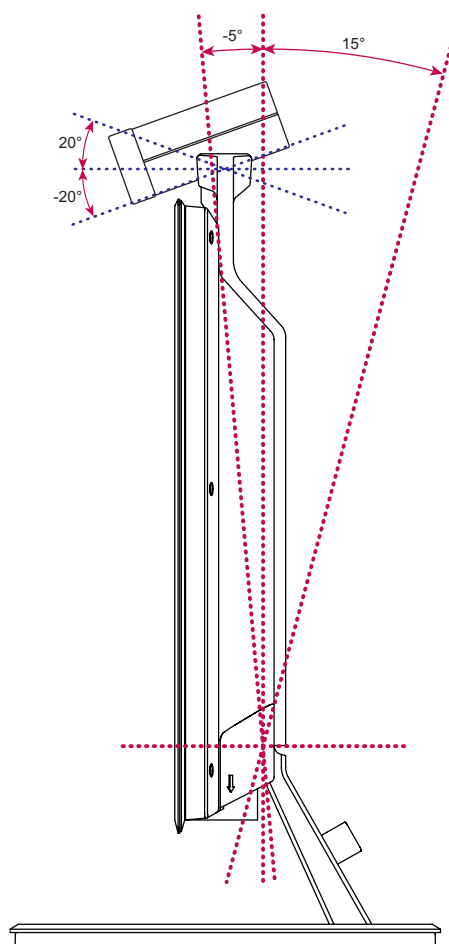


Adjusting the angle of the Monitor and camera

After installation, adjust the angle of the Monitor and camera in various ways for maximum comfort.

It is recommended that the tilt angle of the monitor and camera should not exceed the degrees below in order to maintain an ergonomic and comfortable viewing position.

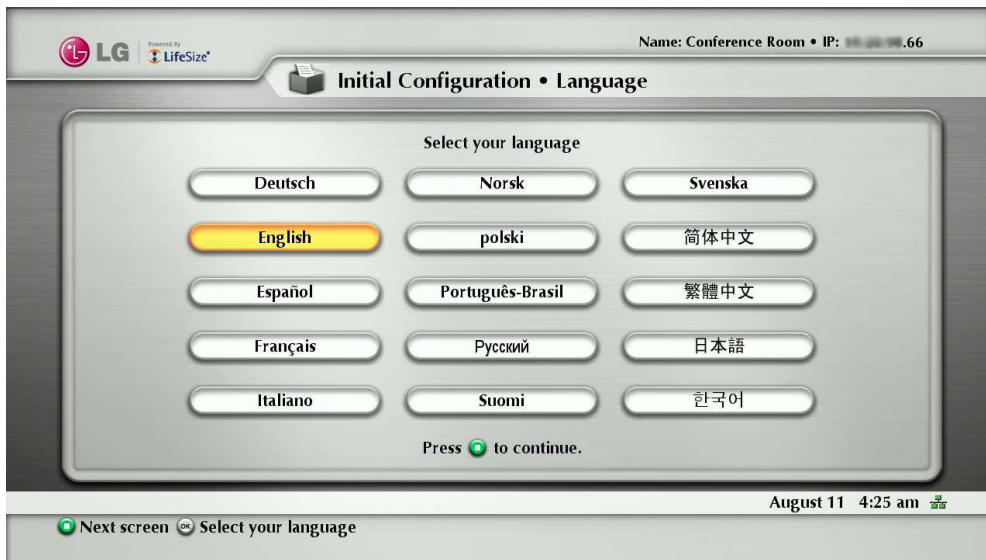
- Camera tilt range : -20° (down) to 20° (up)
- Monitor tilt range: -5° (forward) to 15° (backward)




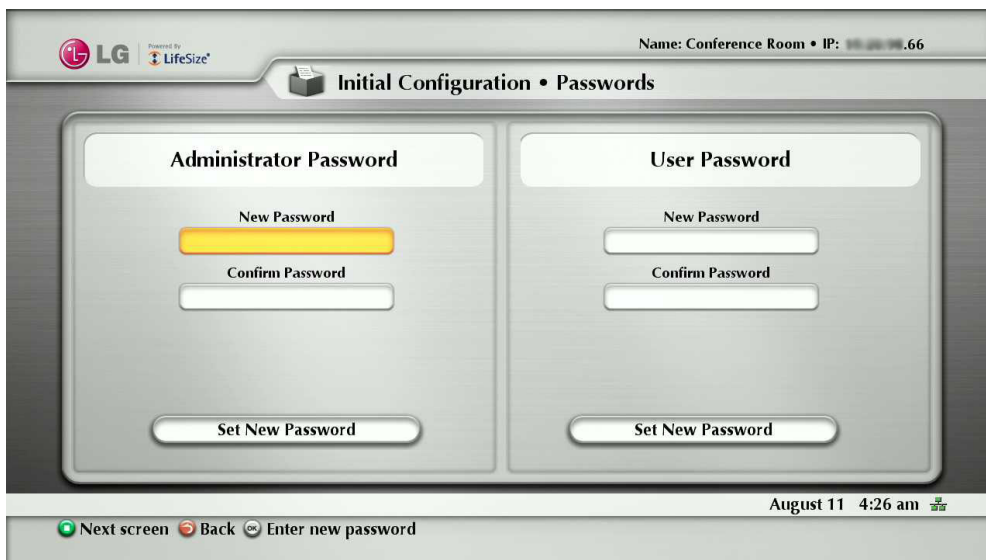
Initial settings for VCS


When you access the VCS for the first time, the Initial setting screen appears. Select a language and customize the basic settings.

1. Turn on the unit. System booting will commence. The logo image will be displayed during the system booting.
2. When the booting is complete the initial configuration menu will be displayed.
3. Set the language.



- 3-1. Select your language using the ▲▼◀▶ buttons and press OK button.
- 3-2. Press  button to continue. The password setting menu is displayed.
4. Set the Administrator or User password.



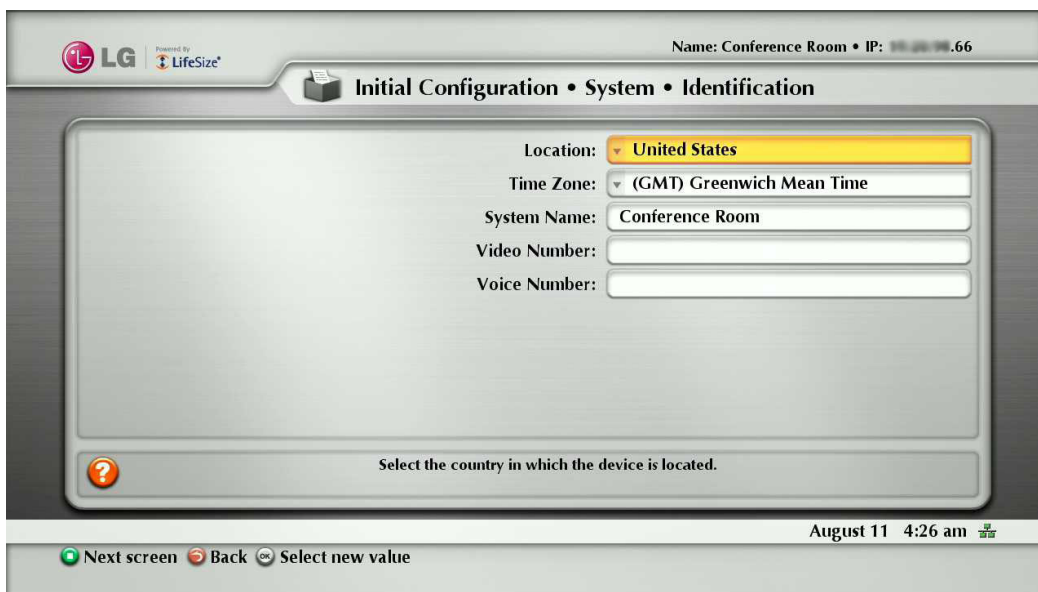
- 4-1. Press OK button on the [New Password] option. Enter the password using number buttons and press OK button.
- 4-2. Press OK button on the [Confirm Password] option. Enter the password again using number buttons and press OK button.
- 4-3. Select [Set New Password] option and press OK button. The confirmation message window is displayed. Press OK button again.
- 4-4. Press  button to continue. The System identification setting menu is displayed.



NOTE

The default administrator password is "1 2 3 4".

5. Set the options of the Identification menu and press  button.



LG Powered By LifeSize® Name: Conference Room • IP: 192.168.198.66

Initial Configuration • System • Identification


Location:


Time Zone:




System Name:


Video Number:

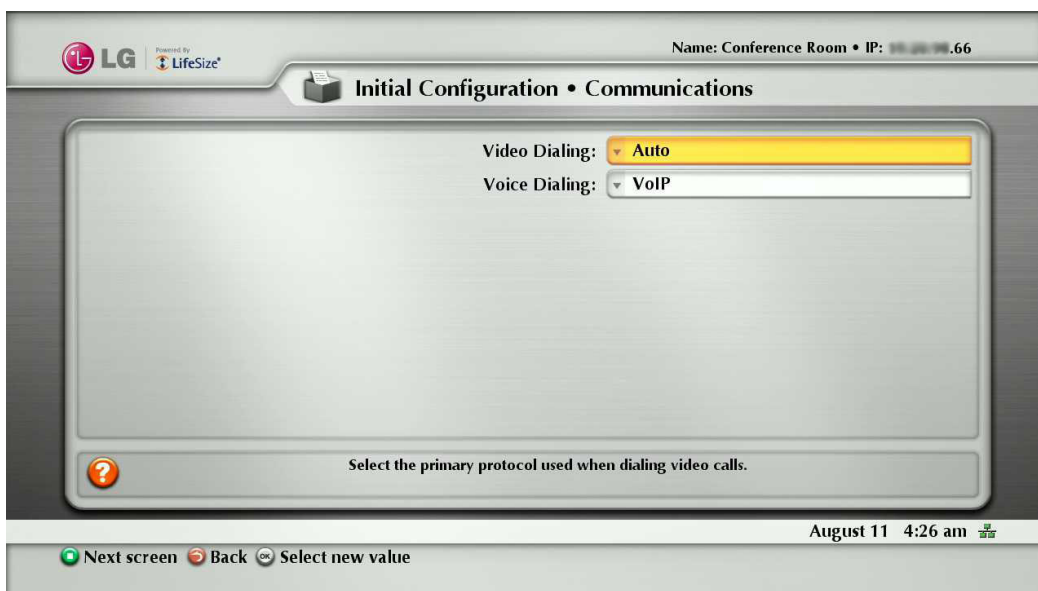
Voice Number:

 Select the country in which the device is located.

August 11 4:26 am 

 Next screen  Back  Select new value

- Location: Select the country where the device is located.
 - Time Zone: Select the city corresponding to the time zone of the system location.
 - System Name: Enter a descriptive name for the system. The system name is used for far end system.
 - Video Number: Enter the video number of the system.
 - Voice Number: Enter the voice number of the system.
6. Set the options of the Communication menu and press  button.





LG Powered By LifeSize® Name: Conference Room • IP: 192.168.198.66




Initial Configuration • Communications

Video Dialing:

Voice Dialing:

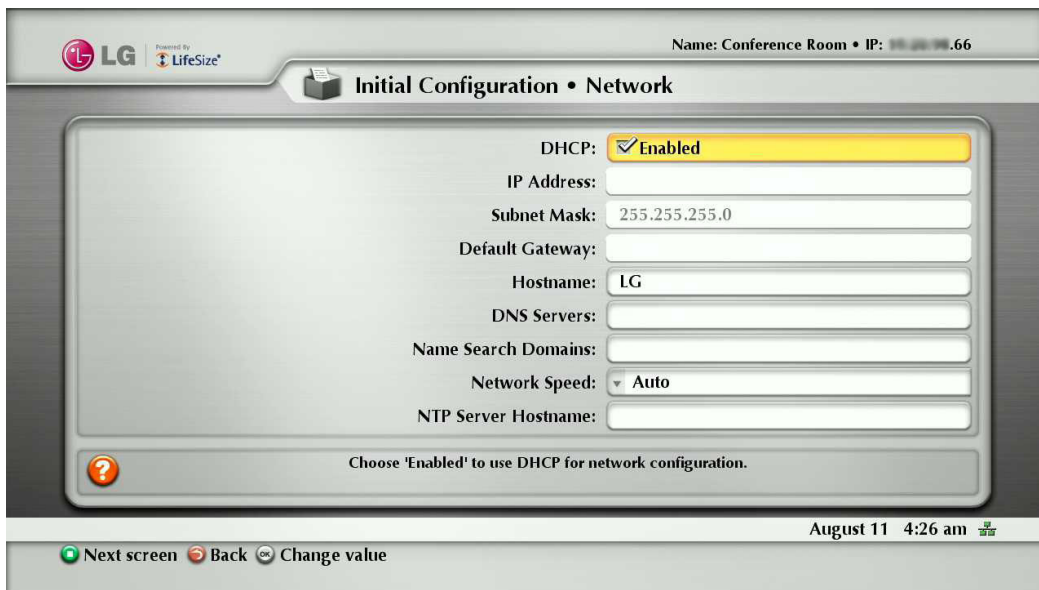
 Select the primary protocol used when dialing video calls.

August 11 4:26 am 

 Next screen  Back  Select new value

- Video Dialing: Select the primary protocol you want to use when dialing video calls.
- Voice Dialing: Select the protocol you want to use when dialing voice calls.

7. Set the options of the Network menu and press  button.



LG LifeSize
Name: Conference Room • IP: 192.168.1.66

Initial Configuration • Network

DHCP: Enabled

IP Address:

Subnet Mask: 255.255.255.0

Default Gateway:

Hostname: LG

DNS Servers:

Name Search Domains:


Network Speed:


NTP Server Hostname:

Choose 'Enabled' to use DHCP for network configuration.

August 11 4:26 am

Next screen Back Change value

- DHCP: Select this option when a DHCP server is installed on the network to allow IP address assignment. With this setting, the IP address is assigned automatically. If you select this option, IP address, Subnet Mask and Default Gateway options cannot be set.
 - IP Address: Enter the static IP address of the device.
 - Subnet Mask: Enter the subnet mask IP address.
 - Default Gateway: Enter the default gateway IP address.
 - Hostname: Enter the hostname.
 - DNS Servers: Enter the IP address to configure as DNS servers. (The IP addresses of the DNS server are separated by blanks.)
 - Name Search Domains: Enter the domain names to search when resolving hostnames.
 - Network Speed: Select the speed and duplex capability of your network. (If the quality of the video and audio call is low, change the network speed to low value.)
 - NTP Server Hostname: Enter the hostname or IP address of the NTP server.
8. Set the options of the Audio menu and press  button.



LG LifeSize
Name: Conference Room • IP: 192.168.1.66

Initial Configuration • Audio

Active Microphone:

Active Microphone Volume: 5

Video Call Audio Output:

Voice Call Audio Output:

System Ringer: Enabled

System Ringer Volume: 5

System Ringer Tone:

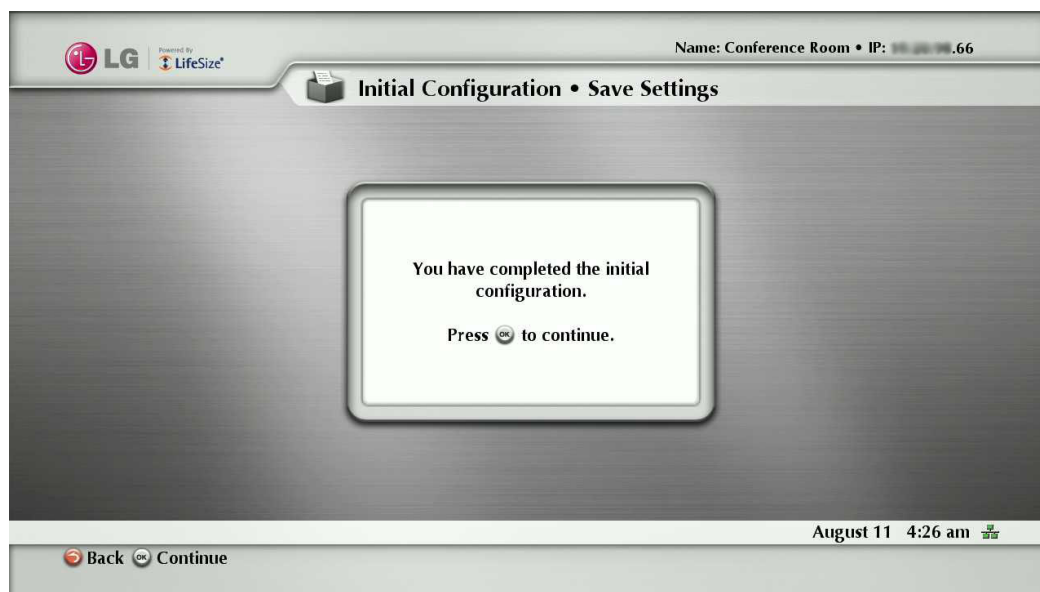
Primary Audio Output Test:

Select the audio input to use for the active microphone.


August 11 4:26 am

Next screen Back Select new value

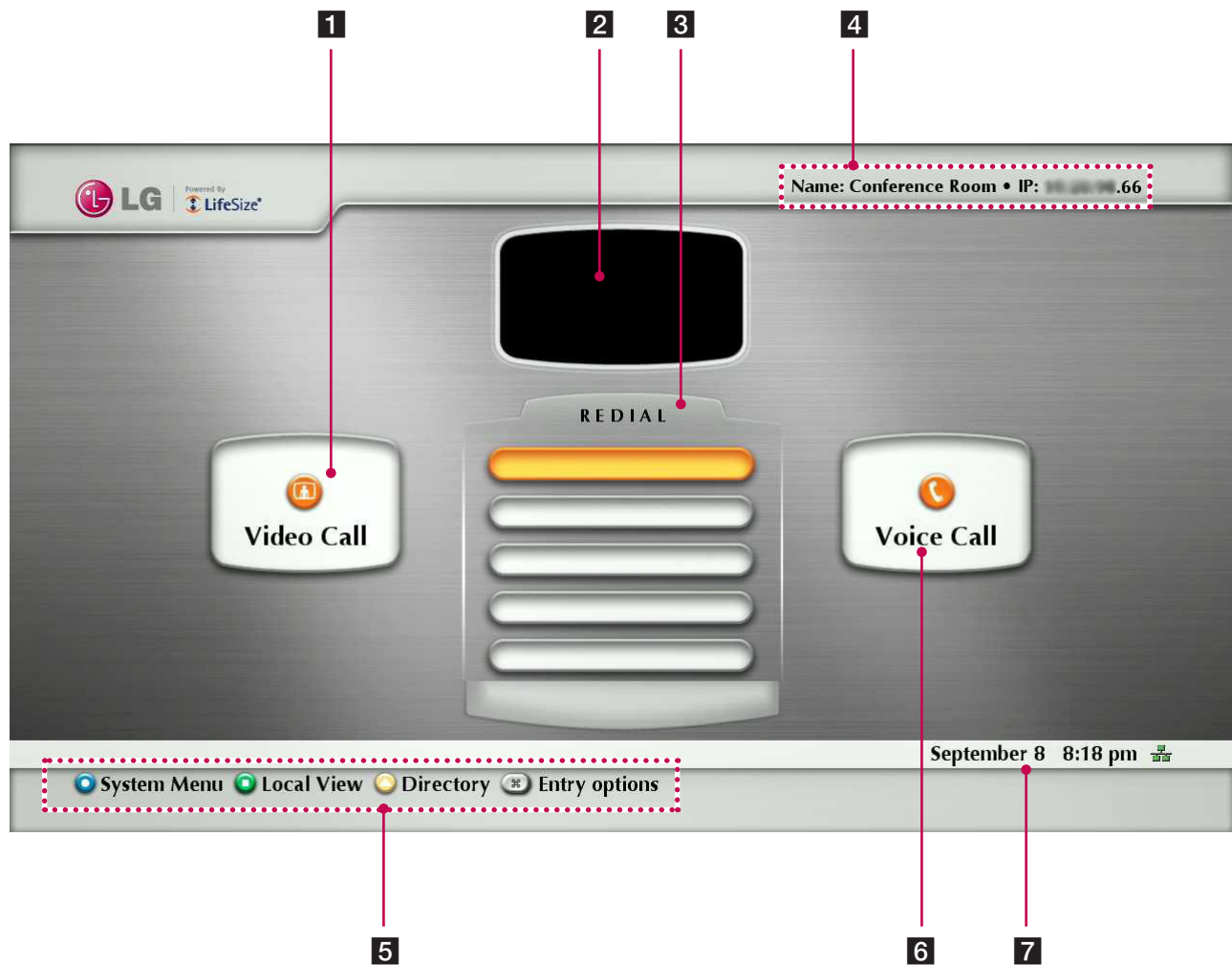
- Active Microphone: Select the audio input to use for the active microphone.
 - Auto: Select this option to set the active microphone automatically. If you select this option, basically the unit selects the built-in microphone of the camera.
 - Microphone In: Set this option to use the connected external microphone.
 - Camera 1: Set this option to use the built-in microphone of the camera.
 - Active Microphone Volume: Select the volume level for the active microphone.
 - Video Call Audio Output: Select the location for audio output during video calls.
 - HD Out: Set this option to use the built-in speakers for audio output during video calls.
 - Line Out: Set this option to use the connected external headphone for audio output during video calls.
 - Voice Call Audio Output: Select the location for audio output during voice calls.
 - HD Out: Set this option to use the built-in speakers for audio output during voice calls.
 - Line Out: Set this option to use the connected external headphone for audio output during voice calls.
 - System Ringer: Choose 'Enabled' to enable the system ringer for the system.
 - System Ringer Volume: Select the volume level for the system ringer.
 - System Ringer Tone: Select the tone for the system ringer.
 - Primary Audio Output Test: Select the test to perform. During testing you should hear test tone. If you want to stop the test, set it to off.
9. If you complete the initial configuration, press OK button to save the settings. VCS main menu will be displayed.



NOTE

- Additionally, refer to the on-screen instructions for each option setting.
- If you want to skip some option settings, press  button.

Main screen overview

















- 1** Video Call button: Use this button to dial numbers manually.
- 2** Local Video Window: Displays the current input video of the local camera.
- 3** The redial list: You can make a call by selecting a number from a list of recently dialed numbers.
- 4** System information: Displays the system information such as the system name and video number. This information is hidden during a call.
- 5** Navigation bar: The navigation bar is a grey bar that appears below the system status bar. The navigation bar contains icons that correspond to buttons on the remote control. It also contains text that describes the action of a button performance. The icons and text change depending on how you use the system.



NOTE

Pressing and holding any button except the OK button on the remote control may cause the command associated with the button to repeat.

- 6** Voice Call button: Use this button to dial numbers manually.
- 7** System status bar: The system status bar indicates system and network status, including the number of voice and video calls, the time and date or the duration of a call when a call is in progress. The following table identifies the icons that can appear in the system status bar.


Icon	Description
<p>Video</p> 	<p>Indicates a video call in progress. An orange circle appears to the right of the video icon to indicate a video call in progress.</p>
<p>Voice</p> 	<p>Indicates a voice call in progress. An orange circle appears to the right of the voice icon to indicate a voice call in progress.</p>
	<p>Indicates that the communication subsystem is initializing. If this icon reappears after the system has booted, a problem has occurred and rebooting the system is necessary.</p>
	<p>Indicates that the system is initializing. When the system is initializing, functionality on the main screen is disabled and no entries appear in the REDIAL list. This icon also appears when a new device is connected to the system after the system boots and disappears when the device is ready. If the icon persists, a problem has occurred and rebooting the system is necessary.</p>
	<p>Indicates that the system does not have an active microphone. Contact your administrator.</p>
<p>Network Status</p>	<p>Identifies the network status, as follows:</p> <ul style="list-style-type: none">  - The indicator turns green when the network is connected. <div style="background-color: #f0f0f0; padding: 5px; margin: 5px 0;"> <p>NOTE</p> <p>If the LAN cable is disconnected during operation, the indicator stays green. It will change to the red indicator after rebooting the system.</p> </div> <ul style="list-style-type: none">  - The indicator turns yellow when the network is progressing.  - The indicator turns red, if the network is disconnected and then the system is rebooted.
<p>System Overheating</p>	 <p>This yellow indicator warns you when the system temperature is above normal operating temperature. The system adjusts fan speed automatically to cool itself.</p>
	 <p>This red indicator warns that the system is overheated and approaching the maximum allowed operating temperature and will automatically reboot after reaching it.</p>
<p>SIP server registration status</p>	<p>When SIP is configured as the protocol for placing calls, this indicator identifies the registration status of the system with the SIP server as follows:</p> <p>in progress  (yellow indicator)</p> <p>registration failed  (red indicator)</p> <p>Contact your administrator.</p>
<p>H.323 gatekeeper registration status</p>	<p>Indicates the registration status of the system with a H.323 gatekeeper as follows:</p> <p>in progress  (yellow indicator)</p> <p>registration failed  (red indicator)</p> <p>Contact your administrator.</p>

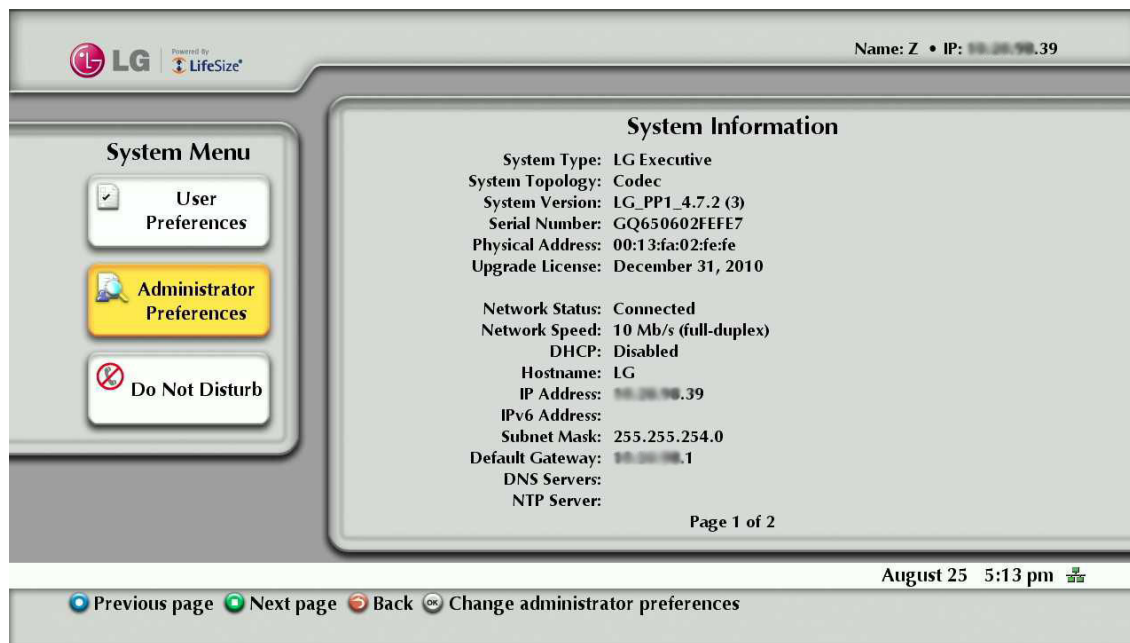
NOTE



When your system is idle, a screen saver appears on the display, or the screen is black. An incoming call or pressing any button on the remote control automatically invokes the system.

Accessing the System Menu

1. On the main screen, press the  button to access the System Menu.

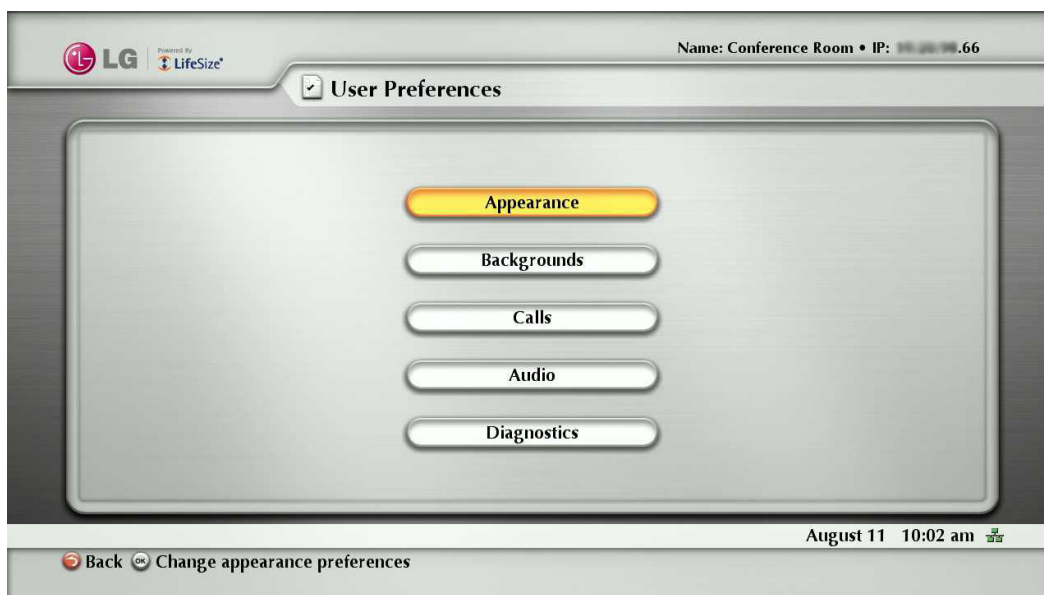
The system information and the configuration menu are displayed. The system information pages show the configuration and status information about your system. Use the  and  buttons on the remote control to navigate the pages.



2. Select a system menu and set the options. Refer to the next pages for more details.
3. Press the  or  button to exit the system menu.

User Preferences setup

Access User Preferences from which you can do the following:



- Appearance: Change the appearance of the user interface, including the language, screen saver and screen saver timeout, system sleep timeout, and the duration of time that the user interface appears after a call connects.
- Backgrounds: Change the background image or color.
- Calls: Choose the method the system uses for answering calls. For more information, refer to “Answering or Rejecting a Call” on page 58.
- Audio: Adjust settings for audio input and output devices connected to the system. For more information, refer to “Managing Audio” on page 60.
- Diagnostics: Access diagnostic tools to adjust camera settings and reboot the system. You can use the camera diagnostic preferences to adjust camera brightness and white balance and correct for some types of flicker that may appear in the video.
 - Adjusting Camera Brightness: Camera brightness refers to the amount of light received through the lens of the camera. You can improve dim scenes by manually adjusting the camera brightness.



NOTE

Camera has auto-exposure algorithm. If the exposure is already high, brightness will not change.

- Adjusting Camera White Balance: Adjust the white balance when video color appears to be unbalanced. White balance is affected by the type of light source.
- Adjusting the Camera Anti-Flicker Preference: Lights powered by a 50 Hz power source can produce a flicker that the camera captures and transmits to the system. If you are using lights powered by a 50 Hz power source and observe a flicker in the video displayed in your system, select the 60 Hz option. The default option is Auto.

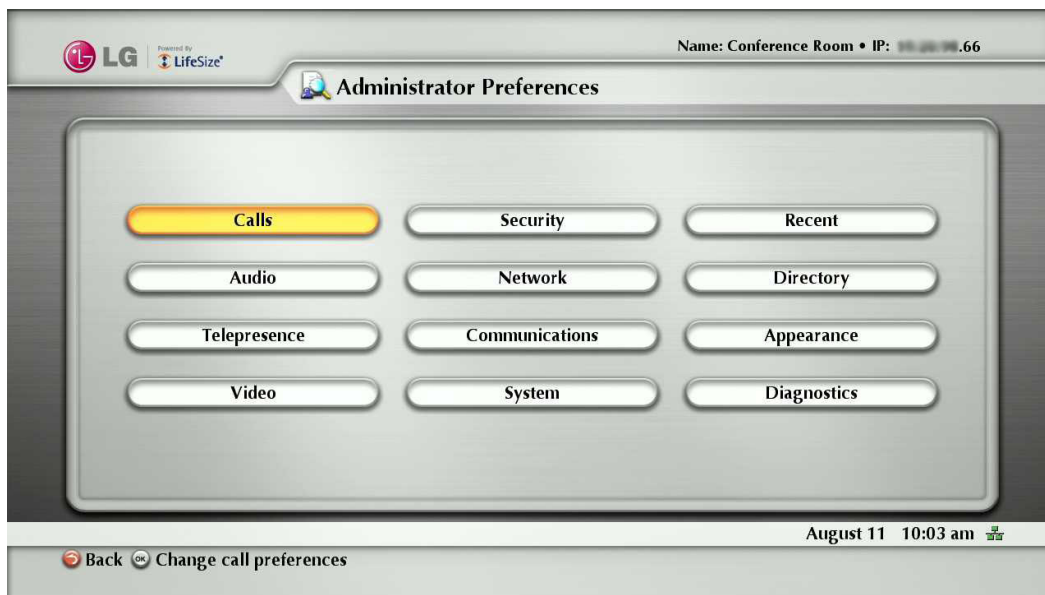


NOTE

Administrator can set the password not to access these preferences.

Administrator Preferences

Administrator Preferences is protected by password and contains preferences for administrators only.



Accessing Administrative Features

You can manage your video communications system using the remote control or remotely using a web browser, telnet session, or secure shell (ssh) session.


Administration Using the Remote Control

To access administrator preferences for configuring the system using the remote control, follow these steps:

1. From the main screen of the user interface, press the  button on the remote control to access the System Menu.
2. Select Administrator Preferences and press OK.
3. Enter the administrator password and press OK.



NOTE

The default administrator password is "1 2 3 4". To change the administrator password, refer to "Changing the Administrator Password" on page 32. If you enter an incorrect password, press the  button on the remote control to clear the Login Attempt Failed message.

Administration from a Web Browser

To configure your system from a web browser, you must have Adobe Flash Player installed and configured on your web browser. You can download the Flash Player from www.adobe.com. Refer to the LifeSize Passport Release Notes for the supported Flash Player version. Release Notes are available from the Support page of www.lifesize.com.

By default, remote access to your system through a web browser is enabled. To disable remote access through a web browser, select Disabled for the HTTP preference in **Administrator Preferences : Security : General**.

To access the web administration interface, follow these steps.

1. Open a web browser and enter the IP address of your system in the web address field. The IP address of the system appears at the top of the main screen in the user interface. A login screen appears.



NOTE

This is a secure Internet connection, and you may receive an unknown certificate warning.

2. In the login screen, do the following:
 - 2-1. Choose the language in which to display the interface.
 - 2-2. Enter the administrator password.
 - 2-3. Click Submit.
3. When you are finished administering the system, click the Log out button at the bottom of the screen, and then close your web browser.

Administration from an SSH Session

You can manage your system from an SSH session. By default, remote access through an SSH session is enabled. Log in through an SSH session and enter commands using the automation command line interface to remotely manage your system. For more information, refer to the “LifeSize Passport Automation Command Line Interface” manual on the Support page of www.lifesize.com. To disable remote access through an ssh session, select Disabled for the SSH preference in **Administrator Preferences : Security : General**.

Administration from a Telnet Session

You can manage your system from a telnet session. By default, remote access through a telnet session is disabled. LG recommends that you use the web administration interface or an ssh session to manage your system remotely. To enable remote access through a telnet session, select Enabled for the Telnet preference in **Administrator Preferences : Security : General**. Use the automation command line interface to manage the system through a telnet session. For more information, refer to the “LifeSize Passport Automation Command Line Interface” manual on the Support page of www.lifesize.com.

Administration Using LifeSize MIBs

This system is SNMP-enabled devices that support SNMPv3.

With a LifeSize custom MIB compiled on your SNMP manager and an SNMP user configured on your system, you can monitor and configure your system from your SNMP manager console.

To use SNMP features, select Enabled for the SNMP preference in **Administrator Preferences : Security : General**. LifeSize MIBs are available for download as ASCII text files from the Support page of www.lifesize.com.

For more information about using LifeSize custom MIBs and configuring your system for use with LifeSize custom MIBs, refer to the Support page of www.lifesize.com.

Configuring Call Preferences

All users can set auto answer options for calls and specify the maximum number of entries to appear in the Redial list. Refer to “Placing a Call” on page 56 for more information.

Administrators can configure the maximum call time and bandwidth in **Administrator Preferences : Calls**.

Administrator Preferences • Calls

Outgoing Call Bandwidth:

Incoming Call Bandwidth:

Outgoing Total Bandwidth:

Incoming Total Bandwidth:

Auto Bandwidth: Enabled

Maximum Call Time:

Maximum Redial Entries:

Page 1 of 2

Select the maximum amount of network bandwidth to use for each outgoing video call.

October 14 10:04 am

Previous page Next page Back Select new value

Managing Bandwidth

You can specify the maximum bandwidth that an outgoing or incoming call uses by setting the Outgoing Maximum Bandwidth and Incoming Maximum Bandwidth preferences in **Administrator Preferences : Calls**.

The value that you choose for the Outgoing Maximum Bandwidth becomes the maximum value that users can choose in the user interface when placing a call by dialing a number manually or when specifying a bandwidth in a directory entry.

If a user specifies Auto for the bandwidth when placing a call, the maximum outgoing bandwidth becomes the starting point for negotiating bandwidth when the call connects.

If you choose Auto as the value for the Outgoing Maximum Bandwidth and Incoming Maximum Bandwidth preferences and the user chooses Auto for the bandwidth when placing the call, the system places the call at 1152 kb/s.

The Auto Bandwidth preference addresses how the system responds to packet loss during a call.

When set to Enabled, the system attempts to use the best available bandwidth after the call connects.

Selecting a Maximum Call Time

You can control the amount of time that a call stays connected by selecting an option for the Maximum Call Time preference in **Administrator Preferences : Calls**.

Controlling REDIAL List Entries

Users and administrators can control the number of entries that appear in the REDIAL list and how the system answers calls in **User Preferences** and **Administrator Preferences : Calls**.

Refer to “Placing a Call” on page 56 for more information.

Auto Answer Options

You can configure your system to automatically answer incoming calls by setting preferences in **User Preferences : Calls** or **Administrator Preferences : Calls** menu as follows:

- Auto Answer: If it is set to Enabled, the system automatically answers the first incoming call. If it is set to Disabled (the default), you must manually answer incoming calls. If your system is configured for answering calls manually, choose one of the following options when an incoming call arrives:

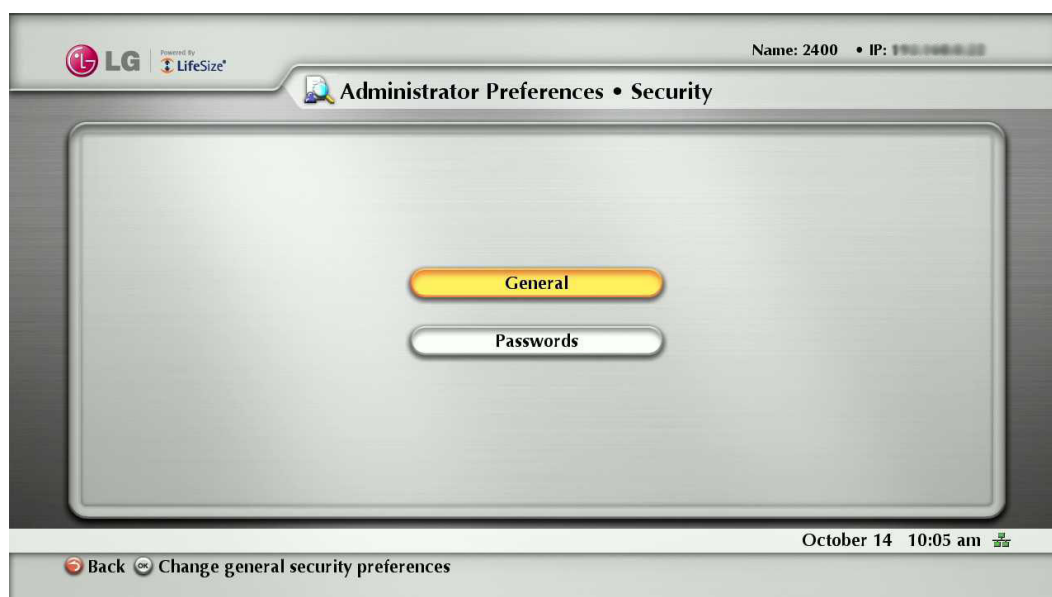
- Select Answer and press OK to accept the call.
- Select Ignore and press OK to reject the call.
- Auto Answer Mute: If it is set to Enabled (the default), and the Auto Answer preference is set to Enabled, the system is muted when a call connects.
- Auto Answer Multiway Call: If it is set to Enabled, the system automatically answers after the first call is connected. The Multiway call function is allowed only for audio call.

Admission Control

You can configure your system to automatically reject incoming calls by setting preferences in **Administrator Preferences : Calls** menu. If it is set to Enabled, the system automatically rejects the incoming calls if it is under a heavy load.

Configuring Security Preferences

You can set preferences in **Administrator Preferences : Security** to manage the administrator and user passwords and control remote access to the system through the web, telnet, SNMP and ssh. You can also enable H.235 AES security for calls.



Controlling Remote Administration

By default, remote access to LG video conference system through the web (http), SNMP, and ssh is enabled; remote access through a telnet session is disabled. To enable or disable remote access through any of these mechanisms, configure preferences in **Administrator Preferences : Security : General**.

Enabling H.235 AES Security

This unit supports H.235 128-bit AES security using the Diffie Hellman key exchange protocol in H.323 and H.460 calls. AES interoperability is supported with the third party devices identified in the Release Notes on the Support page of www.lifesize.com.

To enable AES security, you must set the **Administrator Preferences : Security : General : H.235 AES Security** preference to either Enabled or Strict. When set to Enabled, calls connect, but are encrypted only if the far end supports AES encryption. When set to Strict, calls do not connect if the far end does not support AES security. Encrypted calls are indicated by encryption icons in the caller ID, Call Manager list, and Call Statistics list. Refer to "Caller ID" on page 59 for a description of the icons.

Changing the Administrator Password

You can protect the administrator preferences with a secure password to prevent occasional users from changing them. To change the administrator password, follow these steps:

1. From the System Menu, access **Administrator Preferences : Security : Passwords**.
2. Enter a new password in the New Password field below Administrator Password and press OK.



NOTE

- If you did not change the administrator password during initial configuration, the default password is 1 2 3 4.
- If you forget the administrator password, please contact the authorized service center.

3. Re-enter the new password in the Confirm Password field and press OK.
4. Select the Set New Password button and press OK.

Setting the User Password

You can set a user password to control access to User Preferences screens. By default, the user password is not set.

To set the user password, follow these steps:

1. From the System Menu, access **Administrator Preferences : Security : Passwords**.
2. Enter a new password in the New Password field below User Password and press OK.
3. Re-enter the new password in the Confirm Password field and press OK.
4. Select the Set New Password button and press OK.

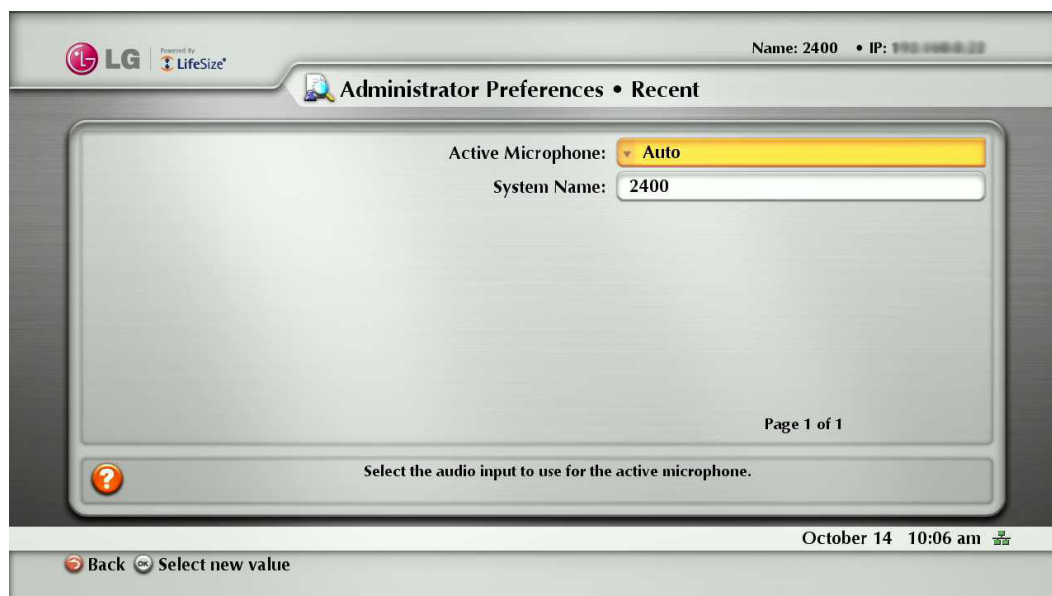


NOTE

- If you set a user password, you can also access the User Preferences screens with the administrator password.
- If you forget the user password, please contact the authorized service center.

Viewing Recent Configuration Changes

As an aid to troubleshooting issues that you may encounter with your system or to quickly access a preference that has been recently changed, view the preferences in **Administrator Preferences : Recent**. Preferences that have dependencies on other preference settings, such as H.323 and SIP server preferences, may not appear in Recent.

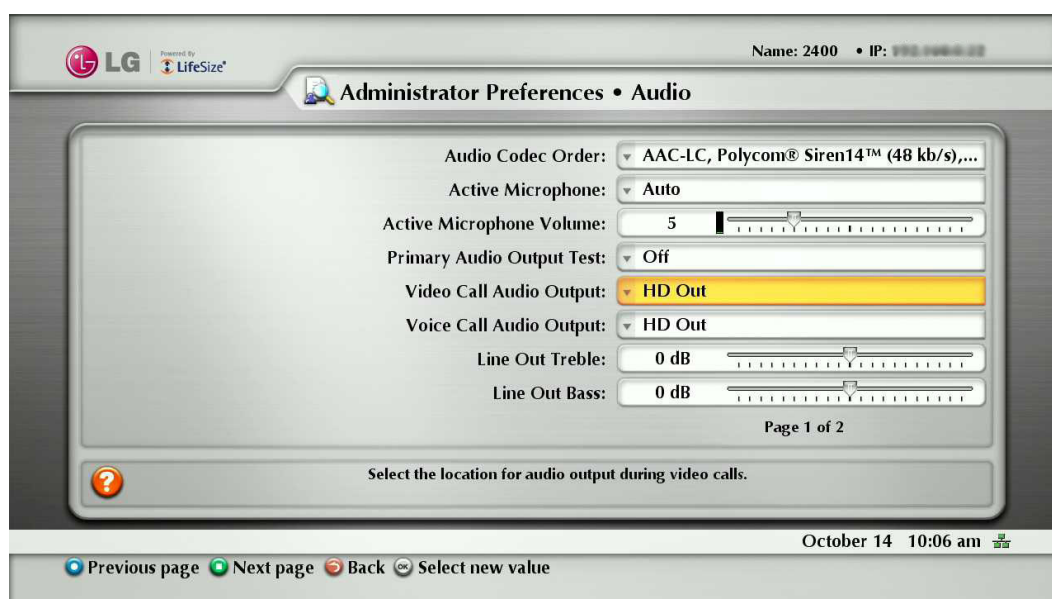


NOTE

Upgrading the system software removes all preferences from the Recent screen.

Configuring Audio Behaviors

You can adjust audio behaviors by configuring preferences in **Administrator Preferences : Audio**.



Configuring Audio Codec Order

To change the order of available audio codecs for the system to use to place calls, select the Audio Codec Order preference, select a codec, and press the right arrow to move the entry up in the list or press the left arrow to move the entry down in the list.

Selecting the Active Microphone

To select a device to serve as the active microphone, navigate to **Administrator Preferences : Audio** and select a device in the Active Microphone preference. The options that are available for the Active Microphone are Auto (default), Microphone In, and Camera 1.

When the Active Microphone preference is set to Auto (the default), or if the option selected is not connected to the system, the system automatically attempts to select a Microphone In, and then Camera 1, in that order.

Adjusting the Active Microphone Volume

To control the volume of the active microphone, adjust the Active Microphone Volume preference in **User Preferences** or **Administrator Preferences : Audio**.

Checking Microphone Status

The Active Microphone field in the System Information page shows which device is functioning as the active microphone.

When the value is None, the No Active Microphone indicator appears in the status bar indicating that no active microphone is available.

The Microphone In field appears in the System Information page for systems that have a microphone in connector on the codec and indicates the connection status of a device for the input (None, Ready, or Error).

Testing Primary Audio Output

You can send audio test tones to speakers that are connected to the system as the primary audio output device.

Navigate to **Administrator Preferences : Audio : Primary Audio Output Test**.

Select a channel to test, or select Auto. The Auto option cycles through all available channels, playing the test tone for 5 seconds before moving to the next available channel.

To end the test, choose Off or navigate to another preference or screen.

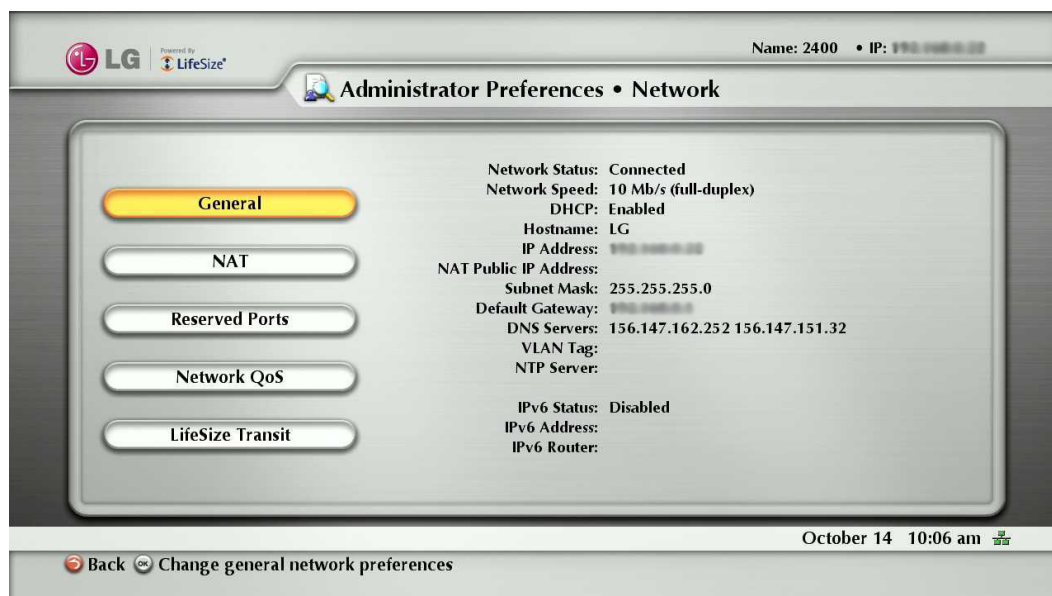
Adjusting Audio Levels

In addition to adjusting the audio volume for line in and the active microphone, you can adjust levels associated with the following preferences:

- Line Out Treble (dB)—Boost the higher frequencies in the sound range for audio output.
- Line Out Bass (dB)—Boost the lower frequencies in the sound range for audio output.
- Ring Tone Volume—Select the volume level of the ring and busy tones.
- DTMF Tone Volume—Select the volume level of the DTMF and key click tones.
- Status Tone Volume—Select the volume level of status tones.
- System Ringer Volume—Select the volume level of the system ringer.
- System Ringer Tone—Select one of five preset system ringer tones.

Configuring Network Usage

To configure preferences that affect how your system functions with other servers and devices on your local network, access **Administrator Preferences : Network : General**.



NOTE

This unit cannot detect a change to its IP address if the change is due to a change in networks from a wiring closet or through software, such as a change to a router configuration. Reboot the system if the DNS changes.

Specifying a Locally Configured IP Address

Dynamic Host Configuration Protocol (DHCP) is used to dynamically allocate and assign IP addresses. DHCP allows you to move network devices from one subnet to another without administrative attention. You can choose to enable DHCP if a DHCP server is present. If you disable DHCP, you must enter an IP address (the locally configured IP address if not assigned by a DHCP server), subnet mask (used to partition the IP address into a network and host identifier), and gateway (IP address of the default gateway the system uses).

Specifying the Hostname and Domain Name Service (DNS) Servers

You can enter the hostname of the system and the IP addresses to configure DNS servers. You can also enter the domain names to search when resolving hostnames. Domain Name System (DNS) translates names of network nodes into addresses; specify this preference to use DNS to resolve the hostnames of devices to IP addresses.

Specifying Network Speed

If you choose an option other than Auto for the **Administrator Preferences : Network : General : Network Speed** preference, ensure that it matches the speed and duplex configured on your network switch.



NOTE

If your Ethernet switch is configured for half duplex, you may experience poor quality video when placing calls greater than 512 Kb/s.

To work around this issue, change your Ethernet switch configuration to a setting other than half duplex when using Auto for the Network Speed preference.

Specifying a VLAN Tag

If you have static virtual local area networks (VLANs) configured in your environment, you can configure your system to apply a VLAN tag to outgoing packets and only accept incoming tagged packets that have the same VLAN identifier.

To enable this feature, navigate to **Administrator Preferences : Network : General : VLAN Tag** and specify the VLAN identifier of the VLAN to which the system is assigned. The value is a number in the range 1 through 4094.



NOTE

If you set or modify the VLAN Tag preference, the system reboots when you navigate to another screen.

Specifying an NTP Server

The system date and time that appear in the user interface are automatically set if one of the following conditions exists:

- The **Administrator Preferences : Network : General : DHCP** preference is set to Enabled, and the DHCP server can pass an NTP server address to your system.
- or -
- The hostname or IP address of an NTP server is specified in **Administrator Preferences : Network : General : NTP Server Hostname**.



NOTE

An NTP server address that a DHCP server passes to your system overrides an NTP server hostname or address specified in the NTP Server Hostname preference.

The System Information page displays the IP address of the NTP server that the system uses.



NOTE

The time zone is not set automatically. If you did not specify the time zone for your system during the initial configuration, the time that appears in the user interface may not be correct. To specify the time zone manually, refer to “Manually Setting System Date and Time” on page 47.

Enabling IPv6 Addressing

This system supports dual configuration of IPv4 and IPv6 addressing for the system IP address only. You cannot disable IPv4 addressing on your system. Calls placed with an IPv6 address use the H.323 protocol.

In addition to specifying a local IPv4 IP address (through either DHCP or by manually specifying a static IP address), you can assign an IPv6 address to your system if you are using IPv6 addressing on your network. Access **Administrator Preferences : Network : General** and choose Enabled for the IPv6 preference.

If your IPv6 network sends router advertisements, select Auto for the IPv6 Configuration preference to automatically assign the IPv6 address to the system. The default option is Auto. If you select Manual for this preference, you can specify a static IPv6 address for the system in the IPv6 Address preference and the address of your IPv6 router in the IPv6 Router preference.



NOTE

Enabling or disabling IPv6 causes the system to reboot after you exit the preference screen.

The IP address that appears at the top of the main screen in the user interface is the IPv4 address. The IPv6 address of the system appears in the System Menu on the System Information page.


All other configuration preferences that require an IP address (for example, the NTP and DNS servers, H.323 gatekeeper, and SIP server) must be IPv4 addresses. You must also use the IPv4 address for your system to access the system remotely through the web administration interface and an ssh session.

The directory supports IPv6 addresses. Users can also manually dial IPv6 addresses using the Video Call or Voice Call buttons on the main screen of the user interface and the 0x1a text entry method or screen keyboard. Refer to “Manually Dialing a Number from the Main Screen” on page 57 for information about changing the text entry mode.

Enabling Network Address Translation (NAT)

Network Address Translation (NAT) enables communication between devices on your LAN that have private IP addresses and devices that are accessed through a public IP network. Static NAT ensures that the same public IP address always maps to a system's private IP address so that data from the public network intended for the private system can be routed to the system reliably.

If you are using static NAT to associate a public IP address with the private IP address of your system, you must configure your system to work with your static NAT server. Access **Administrator Preferences : Network : NAT** and select Enabled for the Static NAT preference.

Enter the public IP address, hostname, or fully qualified domain name of your system in NAT Public IP Address. The default entry method for this preference is numeric. To enter text, use the  key on the remote control to change the entry method to text.



NOTE

If you are using a static firewall or NAT with fixed ports, you cannot register to a public gatekeeper. If you configure H.323 settings and enable H.460 support, the system ignores preferences in **Administrator Preferences : Network : NAT**. Refer to "Enabling H.460 Support for H.323 Calls" on page 43 for more information.

The following functions are not supported if your system is accessed from a web browser outside a firewall and static NAT is enabled:

- System Upgrade
- Directory Import

To work around this issue, execute these functions from within the firewall.

Restricting Reserved Ports

By default, your system communicates through TCP and UDP ports in the range 2 048 to 65 534 for video, voice, presentations, and camera control. The system uses only a small number of these ports during a call. The exact number depends on the number of participants in the call, the protocol used, and the number of ports required for the type (video or voice) of call.

To minimize the number of UDP and TCP ports that are available for communication, you can restrict the range by entering values in **Administrator Preferences : Network : Reserved Ports**. LG recommends that the range you choose, if other than a subset of the default range, begins with a port number greater than 10 000.



NOTE

Changing the TCP range causes an automatic reboot of the system.

An H.323 video call with a presentation requires more ports than other types of calls.

The following tables identify the number of ports required per connection by protocol and the type (video or voice) of call. Use this information if you need to further restrict the port range.

H.323 two-way call required ports:

Call Type	Number of Required UDP and TCP Ports
Video	<ul style="list-style-type: none"> • 8 UDP ports (6 if presentations are disabled) • 2 TCP ports • TCP port 1720 • Each additional video participant added requires 8 UDP ports and 2 TCP ports per H.323 participant.
Voice	<ul style="list-style-type: none"> • 2 UDP ports • 2 TCP ports • TCP port 1720 • Each additional audio participant added requires 2 UDP ports and 2 TCP ports.

SIP two-way call required ports:

Call Type	Number of Required UDP Ports
Video	<ul style="list-style-type: none"> • 6 UDP ports • UDP port 5060 • Each additional video participant added requires 6 UDP ports per SIP participant.
Voice	<ul style="list-style-type: none"> • 2 UDP ports • UDP port 5060 • Each additional audio participant added requires 2 UDP ports.

Configuring Quality of Service

You can specify network Quality of Service (QoS) settings in the **Administrator Preferences : Network : Network QoS** preferences.

Set these preferences according to the settings used in your network.



NOTE

Network QoS preferences are supported with IPv4 addressing only. If you enable IPv6 addressing on your LifeSize system, QoS preferences are ignored for IPv6 calls. For more information about IPv6 addressing, refer to "Enabling IPv6 Addressing" on page 36.

You can specify DiffServ (differentiated services) or IntServ (integrated services) values for audio, video, and data packets.

You can also set the IntServ Type of Service (ToS) preference.

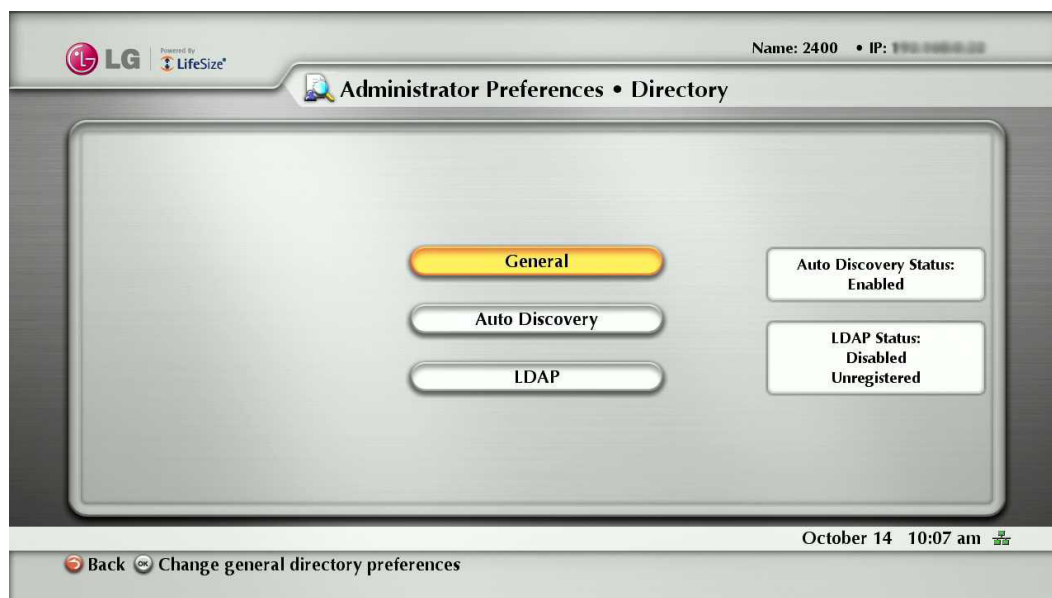
Configuring LifeSize Transit Preferences

If you are using LifeSize Transit with your system, refer to your LifeSize Transit documentation for information about how to configure preferences in **Administrator Preferences : Network : LifeSize Transit**.

Disabling Access to the Local Directory

By default, users can place calls using entries in the local directory and add, remove, or modify these entries. For more information, refer to “Placing a Call from the Directory” on page 57.

Administrators can disable user access to the local directory by setting Local Directory to Disabled in **Administrator Preferences : Directory : General**.



Disabling access to the local directory also disables the following:

- saving entries from the REDIAL list to the local directory
- copying corporate directory entries to the local directory

Administrators maintain access to the local directory on the web administration interface Directory page when the Local Directory preference is set to Disabled. For more information about managing the local directory from the web administration interface, refer to “Using Advanced Directory Features” on page 52.

Populating the Corporate Directory

Users can place calls from the directory by selecting a number to dial from a list of stored numbers.

The corporate directory is H.350 compliant and can store up to 1000 entries in both an alphabetical and hierarchical format.

All users can manage entries in the local directory. Only administrators can manage entries in the corporate directory.

You can populate the corporate directory by configuring Auto Discovery preferences or Lightweight Directory Access Protocol (LDAP) preferences in **Administrator Preferences :Directory**. By default, auto discovery is enabled and LDAP is disabled. You can enable only one of these methods. The system automatically disables the other method to prevent duplicate entries from appearing in the corporate directory. The status of these methods, either enabled or disabled, appears on the **Administrator Preferences : Directory** screen. The connection status of the LDAP installation also appears on this page and on the System Information page.

The values that can appear for the connection status include the following:

Reading from an LDAP Server

When you enable and configure LDAP preferences to populate the corporate directory, you specify the hostname, login and query parameters, and the refresh interval for reading data from a preconfigured LDAP server. LG recommends that you use an LDAP server configured with an H.350 compliant schema.

LDAP Connection Status	Description
Unregistered	LDAP preferences are not configured.
Registered	LDAP preferences are configured. The last attempt by the system to contact the LDAP server and receive data was successful.
Unreachable	LDAP preferences are configured, but the LDAP hostname is invalid or the service does not exist.
Unauthorized	LDAP preferences are configured, but the username or password is invalid.
Invalid Syntax	LDAP preferences are configured, but the base Distinguished Name (DN) is invalid.
Failed	LDAP preferences are configured, but an unexpected failure occurred.

Configuring Auto Discovery

Auto discovery enables the systems on your network to pass address information to other systems automatically.

By default, when a system joins a network, it sends a broadcast packet to the local subnet to announce its presence.

Any system on the local subnet that receives the packet and has Auto Discovery set to Enabled replies by sending address information about itself and a list of IP addresses of other systems that it has discovered.

The system creates an entry in its corporate directory for every system on the local subnet from which it received a response.

It then queries the list of other IP addresses that it received and the IP addresses that are stored in its own Redial list, but only if those addresses are allowed by the filters that you specify in the Auto Discovery Subnets and Auto Discovery Ignored Subnets preferences.

By default, the system replies and sends queries to other systems in the local subnet only.

Configure the Auto Discovery Subnets and Auto Discovery Ignored Subnets preferences to enable the system to discover other systems outside the local subnet and share that information with other systems.

Specify subnet filters (separated by spaces) in the Auto Discovery Subnets preference to identify the subnets to which the LifeSize system can send queries and replies.

By default, the preference is empty; the system sends queries and replies to other systems on the local subnet only.

To exclude subnets from auto discovery, specify subnet filters in the Auto Discovery Ignored Subnets preference. If a destination address does not match one of the filters in the Auto Discovery Subnets preference, or if it matches one of the filters in the Auto Discovery Ignored Subnets preference, then the system does not query or reply to the system at that address.

For example, you can configure the Auto Discovery Subnets preference to include a large subnet and the Auto Discovery Ignored Subnets preference to exclude a subset of the subnet. Consider a network that has several subnets with the IP address 10.* and a slow network connection to devices that have a 10.85.* address. If you enter 10.* in the Auto Discovery Subnets and 10.85.* in the Auto Discovery Ignored Subnets preference, the system queries and replies to all the systems that have a 10.* address, except those that have a 10.85.* address.

If you set Auto Discovery to Disabled, the system does not send a broadcast message to the local subnet and cannot discover or be discovered by other systems.

Enabling Telepresence

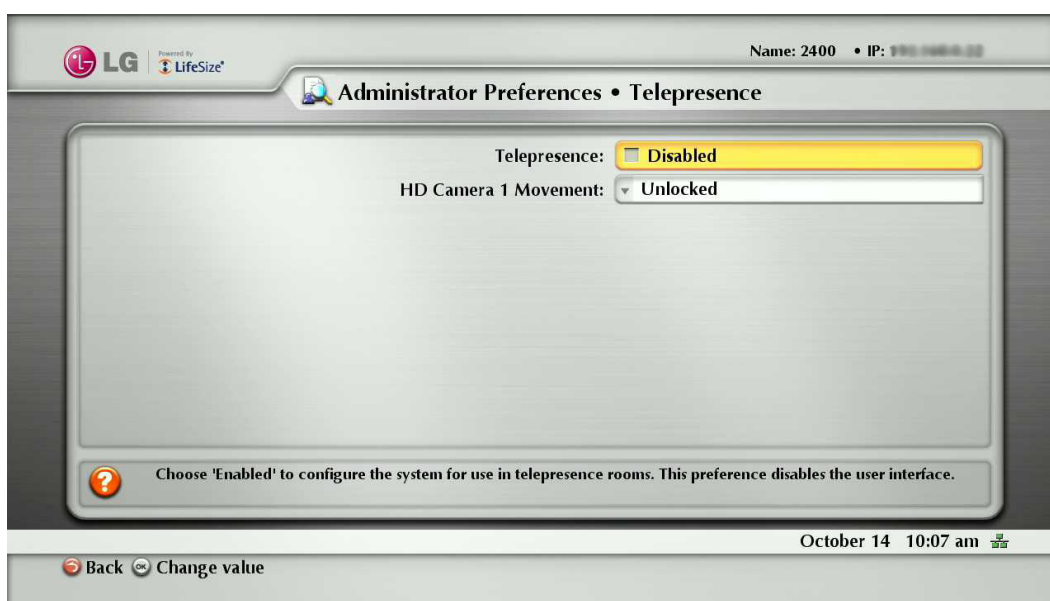
You can set the system to telepresence mode in which a conference administrator controls calls from a control panel (such as LifeSize Control or the Call Manager in the web administration interface).

Enabling telepresence removes the user interface from view. When the system is idle, only the background image appears in the display. An administrator can access the user interface by pressing OK and entering the administrator password.

During a call, users see the video from the call and the mute indicators. The navigation bar, PIP windows, caller ID information, and call status messages do not appear on the screen.

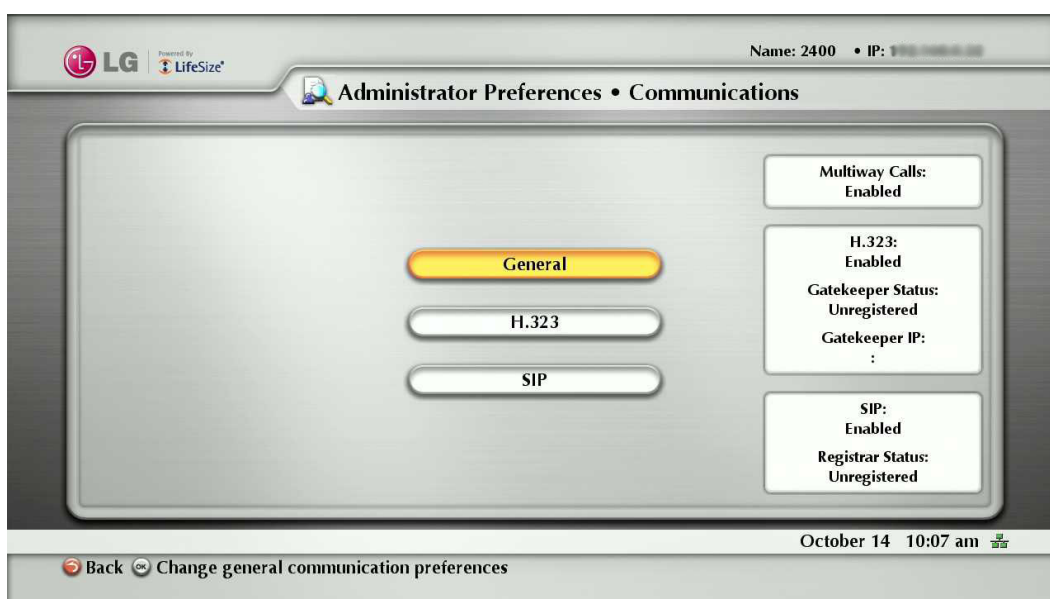
Users can invoke the Call Manager dialog and call statistics and choose video inputs with the remote control. The numeric keys on the remote control play touch tones. Users can change this behavior from the Call Manager.

To enable or disable telepresence and lock or unlock cameras, configure preferences in **Administrator Preferences : Telepresence**.



Configuring Communications Preferences

You can specify options that control which protocols the system uses during calls by configuring preferences in **Administrator Preferences : Communications**.



Configuring Dialing Options

You can choose voice and video dialing options during the initial configuration, when performing a system reset, or at any other time by accessing **Administrator Preferences : Communications : General**.

Receiving Presentations

This system can receive and initiate presentations during a call through a secondary H.239 media channel.

By default, the presentation function is enabled.

To disable presentations access **Administrator Preferences : Communications : General : Presentations**.

Consider disabling the presentation function if your system experiences interoperability issues with third party systems that do not support presentations.



NOTE

Virtual Link (Data Sharing)

Virtual Link allows this system to share IP-based presentation data during call.

For the most current product information, including a summary of new features, resolved and known issues, interoperability with third party products, and documentation errata, refer to the Release Notes at www.lifesize.com/support.

Specifying H.323 Settings

By default, this system supports the H.323 protocol for placing and receiving video and voice calls.

You can disable support for H.323 calls by selecting Disabled for the H.323 preference in **Administrator Preferences : Communications : H.323** when the system is not in a call.

If you choose Disabled for the H.323 preference, the system cannot place or receive calls with the H.323 protocol.





NOTE

If both H.323 and SIP preferences are set to Disabled, a warning message appears and indicates that video calls cannot be placed or received with this configuration.

When H.323 is enabled, you can specify an H.323 name or extension to use when placing a call. The H.323 name and extension identify the device to the gatekeeper. Any registered device can dial another one using this name and extension. The H.323 Name preference is an optional value that is used when a gatekeeper is configured and requires the system to register with an H.323 ID. If the gatekeeper administrator assigns an H.323 ID for the system, enter that ID for the H.323 Name preference. The H.323 Extension preference is an optional value that is used when a gatekeeper is configured and requires the system to register with an E164 number or extension. If the gatekeeper administrator assigns an E164 number or extension for the system, enter that number for the H.323 Extension preference.

Set the Gatekeeper ID only if the gatekeeper requires it (for example, configurations with multiple gatekeepers). The Gatekeeper ID must match the gatekeeper ID configured for the gatekeeper to which the system is registering. Do not configure this preference if the gatekeeper does not require it, as this may result in failure to register with the gatekeeper.

Set the Gatekeeper Mode preference to Auto if you wish to have the system automatically discover a gatekeeper. You can also set the Gatekeeper Mode preference to Manual to manually choose a gatekeeper. If set to Manual, specify the IP address and port for the primary gatekeeper.

When you select the Register button in **Administrator Preferences : Communications : H.323**, icons appear in the status bar to indicate the status of the registration process with the H.323 gatekeeper. The yellow H.323 icon  appears when your system is trying to register with the gatekeeper. If the registration fails, the red H.323 icon  appears. If the system is registered to a gatekeeper, the system displays its status.

Configuring a secondary H.323 gatekeeper with the Gatekeeper IP Address 2 and Gatekeeper Port 2 preferences is optional.

Enabling H.460 Support for H.323 Calls

This system supports the H.460 protocol for firewall and NAT traversal of H.323 calls. You must have an H.460 server configured in your environment for this feature to function properly.



NOTE

If you configure H.323 settings and enable H.460 support, the system ignores preferences in **Administrator Preferences : Network : NAT**.

To enable H.460 client support on a system, configure the H.323 preferences in **Administrator Preferences : Communications : H.323** with the following exceptions:

- Choose Manual for the Gatekeeper Mode preference.
- For the Gatekeeper IP Address 1 and Gatekeeper Port 1 preferences, enter the IP address and port number of the H.460 server that is configured in your environment.
- Choose Enabled for the H.460 preference.
- Navigate to Register and click OK.



NOTE

If you enable H.460 and specify the IP address and port number of a secondary gatekeeper with the Gatekeeper IP Address 2 and Gatekeeper Port 2 preferences, the system ignores the secondary gatekeeper.

Configuring SIP Settings

By default, support for Session Initiation Protocol (SIP) is enabled on the system. To configure SIP as the protocol to use for placing calls, configure SIP preferences in **Administrator Preferences : Communications : SIP**. You can also disable support for SIP by choosing Disabled for the SIP preference when the system is not in a call.

If you choose Disabled for the SIP preference, the system cannot place or receive calls with the SIP protocol.




NOTE

If both H.323 and SIP preferences are set to Disabled, a warning message appears and indicates that video calls cannot be placed or received with this configuration.

For the server, enter the username, SIP server authorization name, and password for the device, if required. The authorization name and password are the values the system uses for authentication; these values are only required if the registrar or proxy require authentication.

If you are planning on placing and receiving calls on this system with Microsoft Office Communications Server, LG recommends that administrators choose Microsoft OCS for SIP Server Type in **Administrator Preferences : Communications : SIP**. The default is Auto. For more information about using Microsoft OCS with LifeSize communications devices, refer to the technical note on the Support page of www.lifesize.com.

You can change the communication path to use when registering with a SIP Registrar, either directly or through a proxy and configure proxy settings. SIP devices use register settings to dynamically register their current location.

When you select the Register button and press OK, icons appear in the status bar to indicate the status of the registration process with the SIP server. The yellow SIP icon  appears when your system is trying to register with the SIP server.

If the registration fails, the red SIP icon  appears.

You can change the SIP UDP signaling port. You can also enable TCP signaling and change the TCP signaling port. You can enable Transport Layer Security (TLS) signaling and change the TLS signaling port only if the SIP Registrar preference is set to Enabled. TCP signaling and TLS signaling are mutually exclusive. Enabling one automatically disables the other. Choosing Disabled for the SIP Registrar preference automatically disables TLS signaling. If neither TCP nor TLS signaling is enabled, only UDP signaling is enabled.

**NOTE**

The system reboots if you change the UDP signaling port, enable or disable TCP or TLS signaling, or change the TCP or TLS signaling ports.

If you enable TLS signaling, the system attempts to use Secure Real-time Transport Protocol (SRTP) for media encryption in SIP calls.

If the far side supports SRTP, the media is encrypted and encryption icons appear in the caller ID, Call Manager list, and Call Statistics list in the user interface during a call. Refer to “Caller ID” on page 59 for a description of the icons.

If the far end does not support SRTP, the media is not encrypted and call encryption icons do not appear in the user interface.

Configuring Appearance Preferences

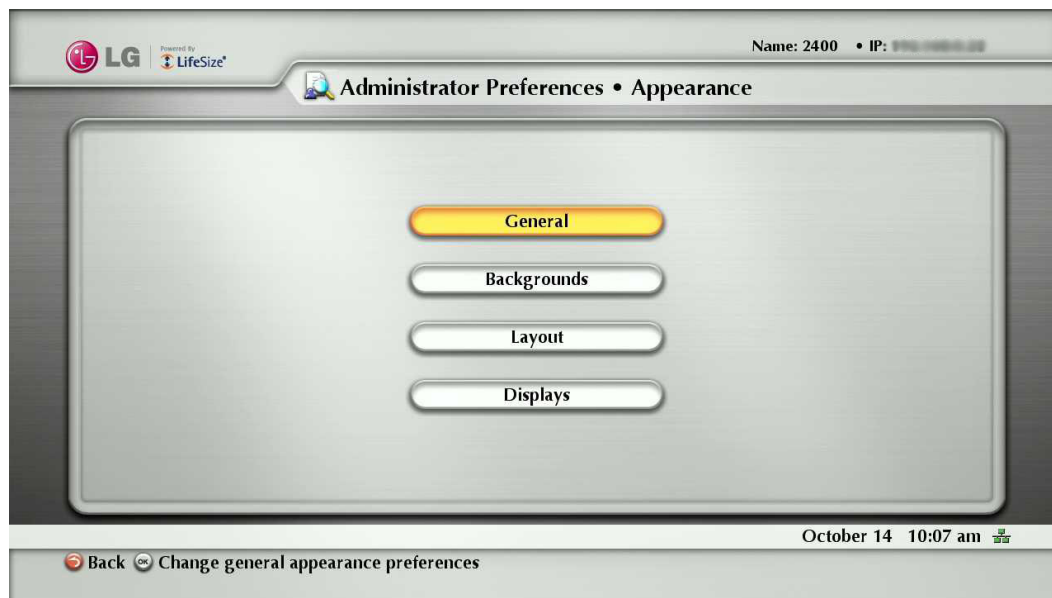
Users can configure preferences in **User Preferences : Appearance** and **Backgrounds** that affect the appearance or behavior of the following:

- screen saver that appears when the system is idle and the screen saver timeout
- system sleep timeout
- timeout interval for the appearance of the user interface after a call connects
- language in which the user interface appears
- background image or color that appears in the user interface

Help text appears at the bottom of the screen to assist users in selecting an option for each preference. Administrators can also access these preferences in **Administrator Preferences : General, Backgrounds, and Layout**.

To hide or show LG&LifeSize branding, access **Administrator Preferences : Appearance : General : Company Logo**.

Choose None to hide the branding. The Default option shows the branding.



Video Layout Preferences

All users can configure the Picture In Picture video layout preference in **User Preferences: Appearance**. Refer to “Managing PIP” on page 60 for more information about setting this preference.

Configuring Display Preferences

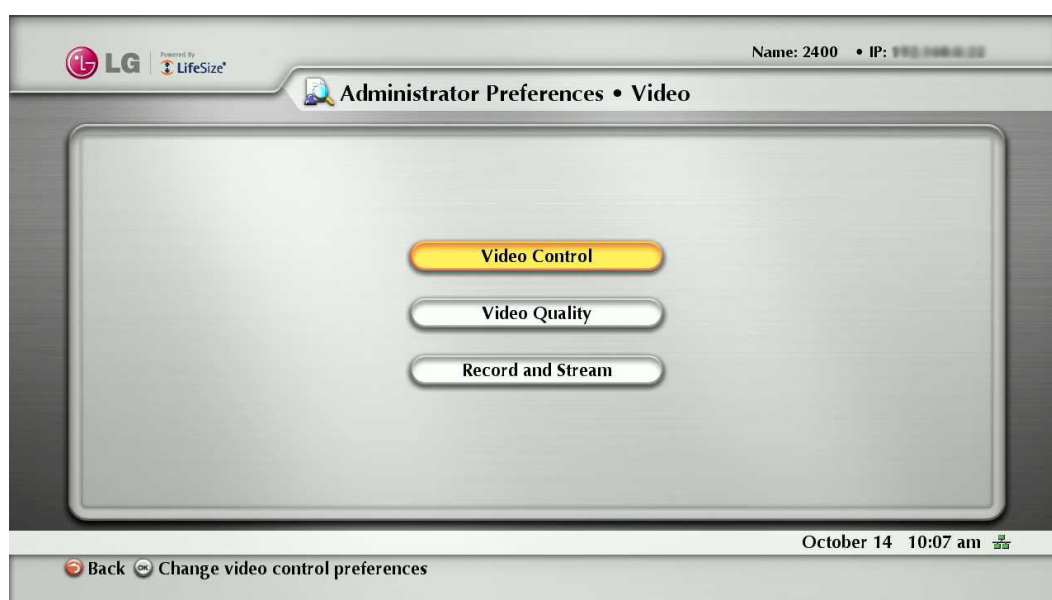
Only administrators can configure preferences that affect display types, resolutions, and energy management options. Display preferences appear in **Administrator Preferences : Appearance : Displays**. Typically, you configure display resolutions when you install your system or change a display and to troubleshoot display issues.

You can set the Display Energy Saver preference to Enabled for connected displays to turn off the signal that the system sends to the display when the system goes to sleep.

LG recommends that you test this feature for compatibility with your display before using it in your environment. Some displays may appear black when the signal from the system is no longer received, but not enter an energy saving state. Other displays may recognize the loss of the signal and show text indicating this state. This may result in the text image burning into the screen. Some displays may recognize the loss of the signal and power off, but then not wake up when the system wakes up.

Configuring Video Behaviors

Administrators can adjust video behaviors to control cameras and video quality by configuring preferences in **Administrator Preferences : Video**.



Controlling the Camera Use by Far End Users

To prevent far end users from controlling your PTZ near end camera, including configuring and controlling camera presets, choose Disabled for the **Administrator Preferences : Video : Video Control : Far Control of Near Camera** preference. If you choose Enabled, you can still prevent far end users from configuring and using near end camera presets by choosing Disabled for the Far Set of Camera Presets and Far Move to Camera Presets preferences.

Locking the Camera Presets

By default, all users can configure PTZ camera presets. To prevent all users (near and far end) from configuring camera presets, select Locked for the **Administrator Preferences : Video : Video Control : Camera Presets Lock** preference.

To prevent only far end users from configuring camera presets, choose Disabled for the Far Control of Near Camera or Far Set of Camera Presets preferences.

Customizing Input Device Names

You can define a custom input name by changing the default value for HD Camera 1 Name in **Administrator Preferences : Video : Video Control**. Customized names are limited to 16 characters.

The default name is HD Camera 1.

Selecting Priority of Quality Metrics for Source Video

You can favor sharpness or motion as a priority for the quality of primary video that the system sends to the far end during a call.

If you favor sharpness by selecting a smaller number for the **Administrator Preferences : Video : Video Quality : Primary Video Motion** preference, in lower bandwidth calls the system sends the primary video at a lower frame rate and a higher resolution.

The default value (10) favors motion.

Adjusting Video Encoder Quality

You can adjust the quality of the video image sent to the far end during a call by specifying a relative lower or higher resolution in the **Administrator Preferences : Video : Video Quality : Video Encoder Quality** preference.

Moving the slider to the right decreases the resolution of the video sent to the far end and improves the quality of the video image.

Consider using this preference to make minor adjustments to the quality of the video image sent to the far end.

Adjusting the MTU of Video Packets

Video packets that exceed the maximum transmission unit (MTU) size for any router or segment along the network path may be fragmented or dropped. This results in poor quality video at the receiving device.

You can set the MTU of video packets that your system sends.

The default value is 1 440 bytes. The allowed range is 900 to 1 500 bytes.

To set the MTU for video packets, access **Administrator Preferences : Video : Video Quality : Video MTU**.

Record and Stream

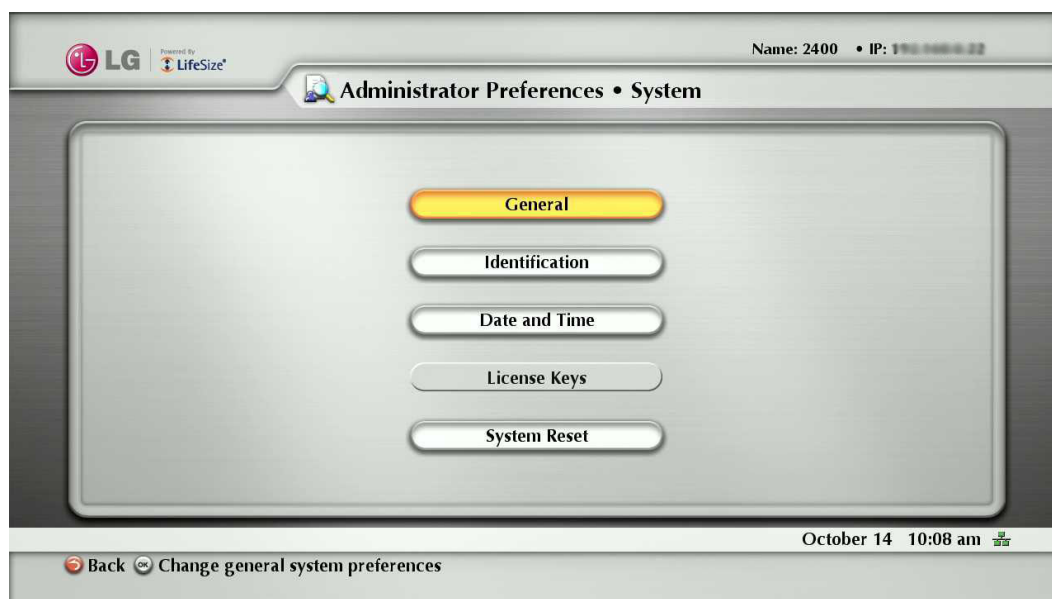
“Record and Stream” in **Administrator Preferences : Video** is related to use of the LifeSize Video Center which is a network server that stores and streams video sent by LifeSize video communications systems enable for streaming and recording.

Viewers access these videos and live streams from the server through a browser-based interface on the computers.

For this product information, refer to the Release Notes for LifeSize Video Center at lifesize.com/support.

Configuring System Settings

You can change settings that identify the system to users in the user interface, set the system date and time, check for updates to license keys, and reset the system to its factory default settings by accessing **Administrator Preferences : System**.



Rebooting the System automatically

You can reboot the system once a day automatically. If you set the Auto Reboot option to Yes, the reboot occurs at 4:02 am local time if the system is asleep.

Identifying the System

To change the system name, dialing numbers, and geographic location specified for the system, access **Administrator Preferences : System : Identification**.

Manually Setting System Date and Time

You can set the system date and time manually as follows:

1. From the System Menu, access **Administrator Preferences : System : Date and Time**.
2. Set the time zone.
3. Set the month, day, and year for the date.
4. Set the hour, minute, and second for the time.
5. Select the Set Date and Time button and press OK to save your changes.

Updating License Keys (Not available)

A current license key must be installed on the system to perform system software upgrades.

A current license key for upgrades is available when a maintenance agreement for the device is in effect.

The Upgrade License field in the System Information page shows the expiration date of an upgrade license key installed on the system.

If the Upgrade License field is blank or contains a value other than a valid (not expired) date, use the following information to update or install an upgrade license key on the system.




NOTE

You can install a patch to a software release with an expired license key if the key was current when the software was released.

The third digit of the three-digit version number of a release identifies a patch, for example 4.3.1 is patch 1 to release v4.3.0.

You can check for updates to license keys in either the user interface or the web administration interface if your system has HTTP access through port 80 to the LifeSize license key server. If your system does not have this access, refer to “Installing a License Key Manually” on page 48.

Checking for License Key Updates in the User Interface

1. From the main screen press the  button on the remote control to access the System Menu.
2. Navigate to **Administrator Preferences : System : License Keys**.
3. Select Update Keys.
4. Press OK on the remote control.

If the update is successful, Success appears in the Update Key Status box and the current license key and its expiration date appear in the Upgrade License box. If the update fails, refer to “Troubleshooting a Failed Update” on page 48.

Checking for License Key Updates in the Web Administration Interface

1. Open a web browser and enter the IP address of the system in the web address field.



NOTE

The IP address of the system appears at the top of the main screen in the user interface.

A login screen appears.

**NOTE**

This is a secure Internet connection, and you may receive an unknown certificate warning.

2. In the login screen, do the following:
 - 2-1. Choose the language in which to display the interface.
 - 2-2. Enter the administrator password.
 - 2-3. Click Submit.
3. Navigate to **Preferences : System : License Keys**.
4. Click the Update Keys button. If the update is successful, Success appears in the Update Key Status box and the current license key and its expiration date appear in the Upgrade License box.
5. When you are finished, click the Log out button at the bottom of the screen, and then close your web browser.

Troubleshooting a Failed Update

If an update to a license key fails in the user or web administration interfaces, one of the following messages appears in the Update Key Status box:

Status Message	Description
No Contract	A current maintenance agreement for the device does not exist. Contact your Authorized Partner to renew your maintenance agreement. The renewal process may require 24 to 48 hours to complete.
Service Unavailable	The system failed to connect to the LifeSize license key server. The server may be down or your system may not have HTTP access to the server. Contact Technical Services if this condition persists and you have HTTP access to the server, or install a key manually using the instructions in "Installing a License Key Manually".
Invalid Key	A license key exists, but is invalid. Contact Technical Services.

Installing a License Key Manually

If you cannot obtain a license key using the license key update feature in the user or web administration interface, you can install a key manually from the web administration interface by doing the following:

1. Click the Download Software button on the Support page of www.lifesize.com.
2. Enter the serial number of your video communications system and click Submit.
3. Copy the license key from the software download page to your operating system clipboard.
4. Open a separate web browser window and access the web administration interface of your video communications system.
5. Navigate to **Preferences : System : License Keys**.
6. In the Enter New Key box, paste the license key that you copied in step 3.
7. Click the Add Key button. The key and its expiration date appear in the Upgrade License box.

**NOTE**

The Add Key button is available only after you copy a key in the Enter New Key box.

Restoring Default Settings

Administrator preferences contain the configuration of the entire system. You may need to reset the system to its default state to correct unknown problems you may be experiencing or to return to a known configuration. You can reset the system from the user interface.

Resetting a System from the User Interface

To reset the system from the user interface, follow these steps:

1. From the System Menu, access **Administrator Preferences : System : System Reset**.
2. Enter the administrator password.

The system automatically reboots and the administrator password is reset to the default value (1 2 3 4). The user password also resets to a blank password, enabling users to access User Preferences without a password. The Initial Configuration screen appears.

You must complete the initial configuration screens to complete the reset.



NOTE

If you reset the system using a remote access method, you must complete the reset from the user interface by navigating the initial configuration screens and pressing OK on the remote control when prompted to save the configuration.

Using Diagnostics Preferences and Tools

Diagnostic preferences and tools that are available to all users include high-definition camera preferences and a system reboot option.

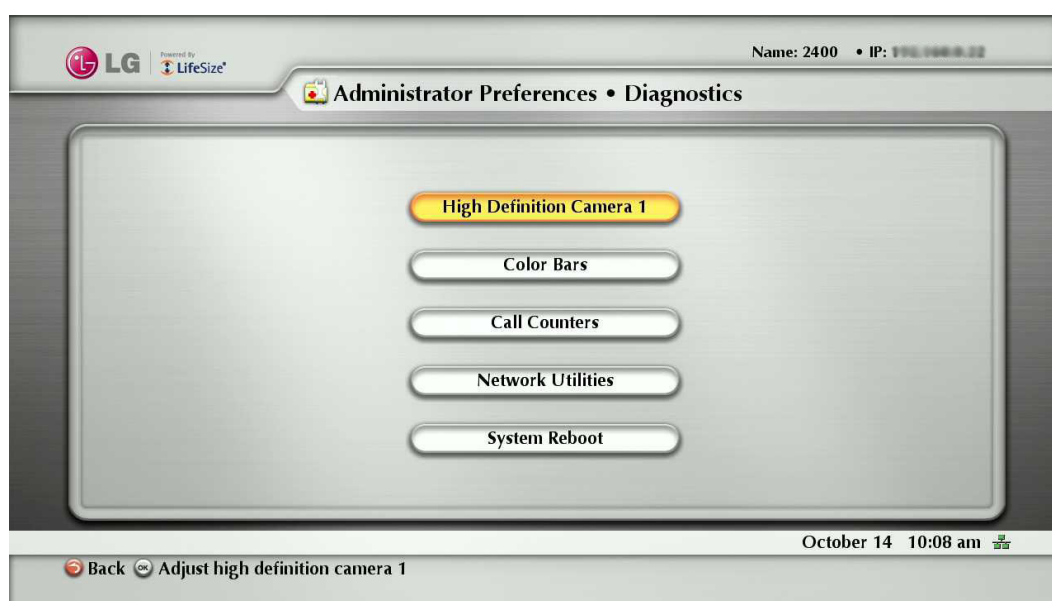
Administrators can access these preferences and tools through **User Preferences** or **Administrator Preferences : Diagnostics**.



NOTE

In the web administration interface, to view the effect of changes made to camera diagnostic preferences on the Diagnostics : Cameras page, click Save Changes and then Refresh.

Diagnostic preferences and tools, available only to administrators in **Administrator Preferences : Diagnostics**, include call counter statistics, color bar settings, and network utilities.



Using Camera Diagnostic Preferences

You can use the camera diagnostic preferences in **User Preferences** or **Administrator Preferences : Diagnostics** to adjust camera brightness and white balance and correct for some types of flicker that may appear in the video.

Using Color Bars

You can check the monitor condition using the **Administrator Preferences : Diagnostics: Color Bars**.

Using Call Counters

You can check how many times you have called and how much time you have called since the last system reboot and reset using the **Administrator Preferences : Diagnostics: Call Counters**.

Using Network Utilities

You can troubleshoot network connection issues with your system using the ping and traceroute utilities in **Administrator Preferences : Diagnostics: Network Utilities**. The ping command tests responsiveness between two devices. The traceroute command tests responsiveness and traces the path of a packet from one device to the other.

Rebooting the System

The system reboots when you do any of the following:

- Reboot the system (Administrator Preferences or User Preferences : Diagnostics : System Reboot).
- Reset the system to its default state (Administrator Preferences : System : System Reset).
- Restore a system configuration using System Restore in the web administration interface (Preferences : System : System Reset : System Restore).
- Enable or disable IPv6 (Administrator Preferences : Network : General)
- Change the VLAN Tag preference (Administrator Preferences : Network : General).
- Change TCP reserved ports (Administrator Preferences : Network : Reserved Ports).
- Change the UDP signaling port, enable or disable TCP or TLS signaling, or change the TCP or TLS signaling ports (Administrator Preferences : Communications : SIP)
- Upgrade the system software from the web administration interface (Maintenance : System Upgrade).

All users can reboot the system by accessing **User Preferences : Diagnostics : System Reboot** from the main screen. Administrators can also reboot the system by accessing **Administrator Preferences : Diagnostics : System Reboot**. Select Yes when prompted to confirm the reboot. To reset the system to its default state, refer to "Restoring Default Settings" on page 49.

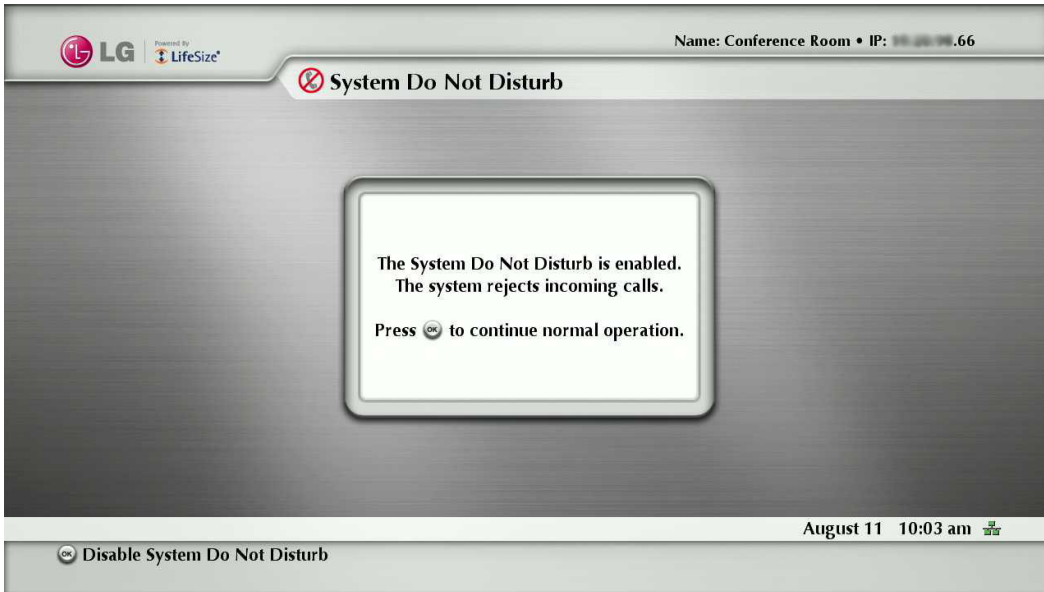


NOTE

Do not unplug the power cord from the system to reboot it.

Do Not Disturb

Activate the system Do Not Disturb feature. For more information, refer to “Answering or Rejecting a Call” on page 58.



Exclusive Web Administration Features

You can perform the same administrative configuration from the web administration interface that is available from the user interface. The web administration interface contains the following additional features not available from the user interface.

Using Advanced Directory Features

Advanced usage of the directory is available only from the web administration interface. On the Directory tab, the List All button retrieves the current directory data. You can import and export entries to and from the local directory using the Import and Export buttons; you can export entries from the corporate directory. Clear All deletes all entries in the local directory. Search enables you to locate a specific entry in the directory.

When importing and exporting directory entries from the web administration interface, use a text editor that supports UTF-8 encoding to view or edit the data. Double-byte characters are not supported in directory entries imported using the web administration interface.

Saving and Restoring a System Configuration

You can save and restore a system configuration only from the web administration interface.



NOTE

System restore is not supported with the FireFox browser or other browsers based on Mozilla code.

The System Save feature creates a text file that contains command line interface commands to restore a saved configuration. The saved configuration includes all the preferences that can be set through the command line interface, except the command line interface password and the password for the default SNMP user. You can edit the file manually to customize the configuration. The System Restore feature restores a system configuration using the saved configuration file. For more information about editing commands in the configuration file and saving and restoring a system configuration using the command line interface, refer to LifeSize Passport Automation Command Line Interface.



NOTE

Configuration preferences and options vary across the system software releases. Restoring a system configuration using a file saved from a different model or software release may produce unexpected results. LG recommends that you restore a configuration that was saved from the same system or the same system model and software release.

To save a system configuration from the web administration interface, follow these steps:

1. In the web administration interface, navigate to **Preferences : System : System Reset**. If you wish to save system passwords in the file, select Save passwords. Passwords saved with this option are not encrypted.
2. Click System Save.
3. In the Download file dialog box, click Yes.
4. When prompted, choose a location in which to save the configuration file and then click Save.

To restore the system configuration from the web administration interface, follow these steps:

1. Ensure that a saved configuration file exists before performing a restore.
2. If you chose not to save passwords when you saved the configuration file, passwords appear in the file as tokens surrounded by ### characters and FIX: precedes the command in the configuration file, for example:

```
FIX: set admin password ###Password###
```

If you wish to replace these tokens with passwords before using the file to restore a system, delete FIX: and replace ###token### with the password. If you do not edit these lines, error 09 (invalid command) appears in the command output when you restore the system; the FIX: lines are ignored; and values previously set for the passwords remain unchanged.

3. Close all calls connected to the system. If calls are connected when you perform a restore, a dialog appears prompting you to continue or cancel the restore. If you continue, the system restore process terminates the calls.
4. In the web administration interface, navigate to **Preferences : System : System Reset**.
5. Click System Restore.
6. If an error dialog appears, examine the errors. You may wish to copy and paste the errors into a text editing program for analysis and troubleshooting. Errors due to the presence of FIX: lines identify commands with token passwords that were not manually edited. Other errors may indicate a problem with restoring a specified preference or restoring the entire configuration. For a description of the error codes that can appear, see "Standard Return Codes" in the LifeSize Passport Automation Command Line Interface manual.
7. Click Continue. The system reboots and a dialog appears indicating that the restore was successful.

Copying Screen Text to the Clipboard

The web administration interface supports copying data from most screens to the operating system clipboard. This feature facilitates troubleshooting by enabling you to paste configuration information into an email or text editing application. If a screen supports this feature, a Copy button appears in the lower right corner of the screen. Click the Copy button to copy the data on the screen to the clipboard.

Downloading Call History

You can download call history as a comma separated value file (.csv file extension) from the Diagnostics page in the web administration interface. Click Call History and then click Download Call History. When prompted, choose a location to save the file. The call history file contains the same output that is produced when you execute the following command in the command line interface:

```
status call history -f-?
```

Downloading call history from the web administration interface retrieves a maximum of 26 records. You can retrieve up to 1 000 records using the command line interface. Restoring a system to default settings, or executing the set system clean -C command from the command line interface, deletes call history from the system. For more information, refer to LifeSize Passport Automation Command Line Interface manual.

Upgrading System Software

You can upgrade your system software and manually install a license key only from the web administration interface. For more information, refer to "Upgrading your System Software" on page 54.

Managing Calls from the Web Administration Interface

You can place calls from the Directory tab by selecting an entry and clicking Dial. Dialing an entry from the directory invokes the Call Manager. The Call Manager tab includes all call management features that are available to users. When you move the pointer over an interface element, a tool tip appears to assist you with identifying the call management feature associated with that element. Data that appears in the Call Manager refreshes every five seconds.

Upgrading your System Software

To upgrade the software for your system, follow these steps:

1. Access www.lifesize.com/support.
2. Click the Download Software button.
3. Enter your serial number (located on the back of your system and on the System Information page).
4. Click the link for the software version you wish to download.
5. Download it to a local directory on your system.
6. Access the web administration interface for your system. Refer to "Administration from a Web Browser" on page 28.
7. Click the Maintenance tab.
8. Click System Upgrade.
9. If your upgrade requires you to reset the system to the original default settings, select the Reset to Default State check box.
10. Browse for the upgrade file you downloaded in step 5.
11. Click Upgrade.



NOTE

If calls are connected to the system, a dialog appears prompting you to continue or cancel the upgrade. Click Yes, to continue with the upgrade and disconnect the active calls. The upgrade may take several minutes; do not disrupt the upgrade process. During an upgrade, a status screen appears in the display connected to the system. Users cannot cancel the screen, and the system rejects incoming calls.

12. A system upgrade status message appears when the upgrade is complete. Close the status window and close the administrator configuration window.
13. Your system is ready to use. If you selected the Reset to Default State check box in step 9, you must first reconfigure your system.

Troubleshooting Upgrade Failures

If attempts to upgrade software for your system fail, follow these steps:

1. Ensure you have a valid upgrade image.
2. Reboot the system.
3. Attempt the upgrade again.
4. If a second attempt fails, note the error code returned.
5. If problems persist, please contact the authorized service center or where you purchased.

Upgrade Error Codes

Following are the error codes you may receive when an upgrade fails.

Code	Problem	Description
1	Internal error	The system is missing critical files.
2	Switch to upgrade failed	The command to set the active partition failed.
3	Write failed	A write failure occurred during copying of the image to the upgrade partition. This typically occurs when using an upgrade image for another LifeSize product.
4	Read failed	Reading incoming data failed during the uploading of the image. This typically occurs if the connection is broken during the upload.
5	Upgrade script failed	After the image has been successfully uploaded the system runs an upgrade script for final processing. This error indicates a failure in that script. This typically occurs when using an upgrade image for another product.
6	Unable to run upgrade script	The system was unable to run the upgrade script. This typically occurs when using an upgrade image for another product.
7	Unable to mount upgrade partition	After the image has been copied to the system, the system failed to mount the image. This typically occurs if the upgrade image is corrupt or when using an upgrade image for another product.
8	No permission	The system failed to read the upgrade partition.
9	Corrupt image	The upgrade image is corrupt and unusable. This typically occurs due to a bad image or errors during upload to the device.
10	Bad argument	An invalid argument was submitted to the upgrade process. This typically occurs when using an upgrade image for another product.
11	Invalid signature	The encryption signature is invalid. This typically occurs if the image is corrupt or compromised.
12	Decrypt failed	The system was unable to decrypt the upgrade image. This typically occurs if the image is corrupt or compromised.
13	Developer system	The system is configured for development and can only be upgraded by a LG representative.
14	Upgrade in progress	An upgrade is already in progress. The system only supports one upgrade at a time.
15	Upgrade license expired	A current license key for upgrading the system software does not exist on the device. Contact your authorized partner to renew your maintenance agreement.

4 Operation

Near End Video Quality

Before you place a call, examine the near end video image of the camera. If the image flickers, colors appear unbalanced, or the image appears too dark, you may need to adjust the room lighting or camera brightness and whitebalance.

Placing a Call

You can place a video or voice call with your VCS system in the following ways:

- Select a stored number from the REDIAL list on the main screen or from the directory.
- Manually dial a number using the Video Call or Voice Call buttons on the main screen.

You can place a call with the IP addresses. This enables systems inside a corporate network without access to a gateway to call other systems in the network using system IP addresses.






NOTE

When microphone howling occurs during the Video or Voice call, the microphone will be shut off automatically and the icon for announcing that the microphone is shut off will appear on the lower right-hand corner of the screen automatically.

Placing a Call from the REDIAL List

The REDIAL list on the main screen stores up to 15 recently dialed numbers. A scroll bar appears when more than five entries are available for selection. The oldest entry in the list is automatically removed when the system receives a call after the maximum number of entries has been reached.

The last call placed always appears at the top of the list. The entry includes the name of the system called and an icon that indicates whether the call was a voice  or video  call. The entry's number (and bandwidth if the entry is a video call) appears below the list when the entry is selected. If the system receives a call, but does not answer it, the call appears in the REDIAL list as a missed call. The  symbol appears next to the name in the entry. Select the entry to display the date and time of the missed call below the REDIAL list.

To place a call from the REDIAL list, use the arrow keys on the remote control to select an entry and press OK.

To change the bandwidth for a video call on the REDIAL list before placing the call, select Video Call on the main screen, press OK twice, and use the right arrow key to select the desired bandwidth from the list.

**NOTE**





- Selecting Auto from the Video Call selection before placing a call does not change the bandwidth selection for an entry on the REDIAL list that does not have Auto as its last called bandwidth.
- You can adjust the maximum number of entries that appear in the REDIAL list by adjusting the [Maximum Redial Entries] preference in the **User Preferences : Calls** menu.
- The [None] option for the [Maximum Redial Entries] preference removes existing entries from the REDIAL list and prevents new entries from appearing on the list.
- You can also add entries from the REDIAL list to the local directory and manually remove entries or lock them to prevent them from being automatically removed when the maximum number of entries is reached. For more information, refer to “Managing the REDIAL List” on page 63.

Placing a Call from the Directory


The directory stores a list of names and numbers from which you can place calls. The directory includes three subdirectories: the local, corporate and meetings directories. The corporate directory is read only and managed by your administrator.

Entries in the local directory are stored on the system and can be modified.

To place a call from the directory, follow these steps:

1. From the main screen, press the  button on the remote control to access the directory.
2. Use the arrow keys to select the Local, Corporate or Meetings directory and press OK.
3. Use the arrow keys on the remote control to select the entry that you wish to dial.
You can browse the directory using either the alphabetical or hierarchical method. When you use the alphabetical method, the entries appear in alphabetical order and you can select an alphabet group in the Browse column to quickly navigate to an entry. Hierarchies are predefined organizational units similar to folders or directories on a computer system. You can place an entry into a hierarchy when you create the entry or at any time by editing the Hierarchy field when editing the entry. For more information about creating hierarchies, refer to “Managing the Directory” on page 64. Using the hierarchical method, you can select a hierarchy in the Browse column to locate an entry. To move down one level in Browse, press OK. To move up one level, press the  button. You can also use the  and  keys on the remote control to move up or down a page of entries when an entry is selected.
4. Press OK on the remote control to place the call.

**NOTE**

- If your site uses LDAP (Lightweight Directory Access Protocol) to authenticate users, you can import users from the LDAP server to corporate directories.
- If an entry in the local or corporate directory has more than one number, the  symbol appears in the NUMBERS column. Press OK and select the number you wish to call. Press OK to place the call.
- You can also add, remove or edit entries in the directory. For more information, refer to “Managing the Directory” on page 64.

Manually Dialing a Number from the Main Screen




Use the Video Call and Voice Call selections on the main screen to dial a video or voice number manually using the remote control.

Manually Dialing a Video Number

To dial a video number manually from the main screen, follow these steps:

1. Use the arrow keys on the remote control to select Video Call and press OK.


2. Enter the number you wish to call. The last manually entered number appears by default. To edit the number, use the following keys:

- The  button behaves as the backspace.
- The  button displays the keyboard from which you can enter alphanumeric characters. Use the arrow keys to navigate to the character you wish to enter and press OK.
- The  button changes the text entry method (indicated at the bottom of the screen).







NOTE

The 0x1a option enables you to enter an IPv6 address when your system is connected to an IPv6 network. If IPv6 addressing is enabled on your system, the IPv6 address of the system appears on the System Information page in the System Menu. If you enter an IPv6 address, the system you are calling must support IPv6 addressing for the call to connect.

- Press OK to exit the field.
3. Navigate to the list that appears next to the entry box for numbers and choose a value for the maximum bandwidth for the call. Press OK to access the list, use the arrow keys to select a value, and press OK again to save your selection. (The selected bandwidth value can affect the quality of the call. Select the proper bandwidth for the network environment of the far end system. The default value is Auto.).
4. Press the call  button to dial the number.

Manually Dialing a Voice Number

To dial a voice number manually from the main screen, follow these steps:

1. Use the arrow keys on the remote control to select Voice Call and press OK.
2. Enter the number you wish to call. The last manually entered number appears in this field by default. To edit the number, use the following keys:
 - The  button changes the text entry method (indicated at the bottom of the screen).
 - The  button behaves as the backspace.
 - The  button displays the keyboard from which you can enter alphanumeric characters. Use the arrow keys to navigate to the character you wish to enter and press OK.
3. Press the call  or OK button to place the call.

Answering or Rejecting a Call


You can configure your system to automatically answer incoming calls by setting preferences in **User Preferences : Calls** menu as follows:

- Auto Answer: If it is set to Enabled, the system automatically answers the first incoming call. If set to Disabled (the default), you must manually answer incoming calls.
If your system is configured for answering calls manually, choose one of the following options when an incoming call arrives:
 - Select Answer and press OK to accept the call.
 - Select Ignore and press OK to reject the call.
- Auto Answer Mute: If it is set to Enabled (the default), and the Auto Answer preference is set to Enabled, the system is muted when a call connects.

Using System Do Not Disturb

You can enable the system Do Not Disturb feature to show only the background image of the main screen with the status and navigation bars and a system Do Not Disturb message. When the system Do Not Disturb feature is enabled, the system responds only to the volume control buttons and the OK button on the remote control. Callers hear a busy signal and missed calls appear in the REDIAL list. Consider using this feature, for example, if you are using the meeting room for a purpose other than a video conference and do not wish to be disturbed by incoming calls.

To enable this feature, follow these steps:

1. From the main screen, access the system menu by pressing the  button on the remote control.
2. Use the down arrow key to select Do Not Disturb.
3. Press OK. A dialog box appears indicating that the system Do Not Disturb feature is enabled.



NOTE

If you want to return to the normal system operation, press the OK button.

Managing a Call





During a call, you can view information about the status of the call and the identity of the connected caller. You can also manage audio output and video images.




Call Status

When you place a call with your system, a Call Status dialog appears. The Call Status dialog shows the IP address that you are attempting to call and the status of the call (for example, dialing, ringing, connecting, answered, or unavailable).


Caller ID

When your video call is answered, video from the far end appears in your display. In the upper-left corner of the far video image, the caller ID (IP address) of the far end system appears. One or more of the following icons may appear next to the caller ID to represent information about the call.

Icon	Description
	Video call.
	A video call that is encrypted. NOTE The  icon appears in the Call Status, Call Manager list, and Call Statistics list.
	Microphones are muted on the far end system.

Icon	Description
	Voice call.
	A voice call that is encrypted. NOTE The  icon appears in the Call Status, Call Manager list, and Call Statistics list.

Hiding or Showing User Interface Elements

By default, the system information, status bar and navigation bar fade from the screen after a call has been connected for 10 seconds. This interval resets after any interaction with the system. You can adjust the duration of the fade out interval by adjusting the Fade Out Timeout preference in **User Preferences : Appearance** menu. To hide or show these user interface elements at any time during a call, press the  button.




NOTE

The user interface does not hide if the system is overheating. System overheating icons appear in the status bar.


Managing Audio

You can identify the video caller who is speaking in the call, adjust the volume of the audio, and mute the active microphone.


Identifying the Dominant Speaker

When a video participant in a call is speaking, the dominant speaker icon  appears in the display in the video image from that participant.

Adjusting Volume

To adjust the volume in a call, use the  button on the remote control. You can also adjust the active microphone volume, or the treble and bass levels for audio out by adjusting preferences in [User Preferences > Audio] menu.

Muting the Active Microphone

Pressing the mute  button on the remote control mutes the active microphone. When the near side active microphone is muted in a call, the  symbol appears.

Managing PIP

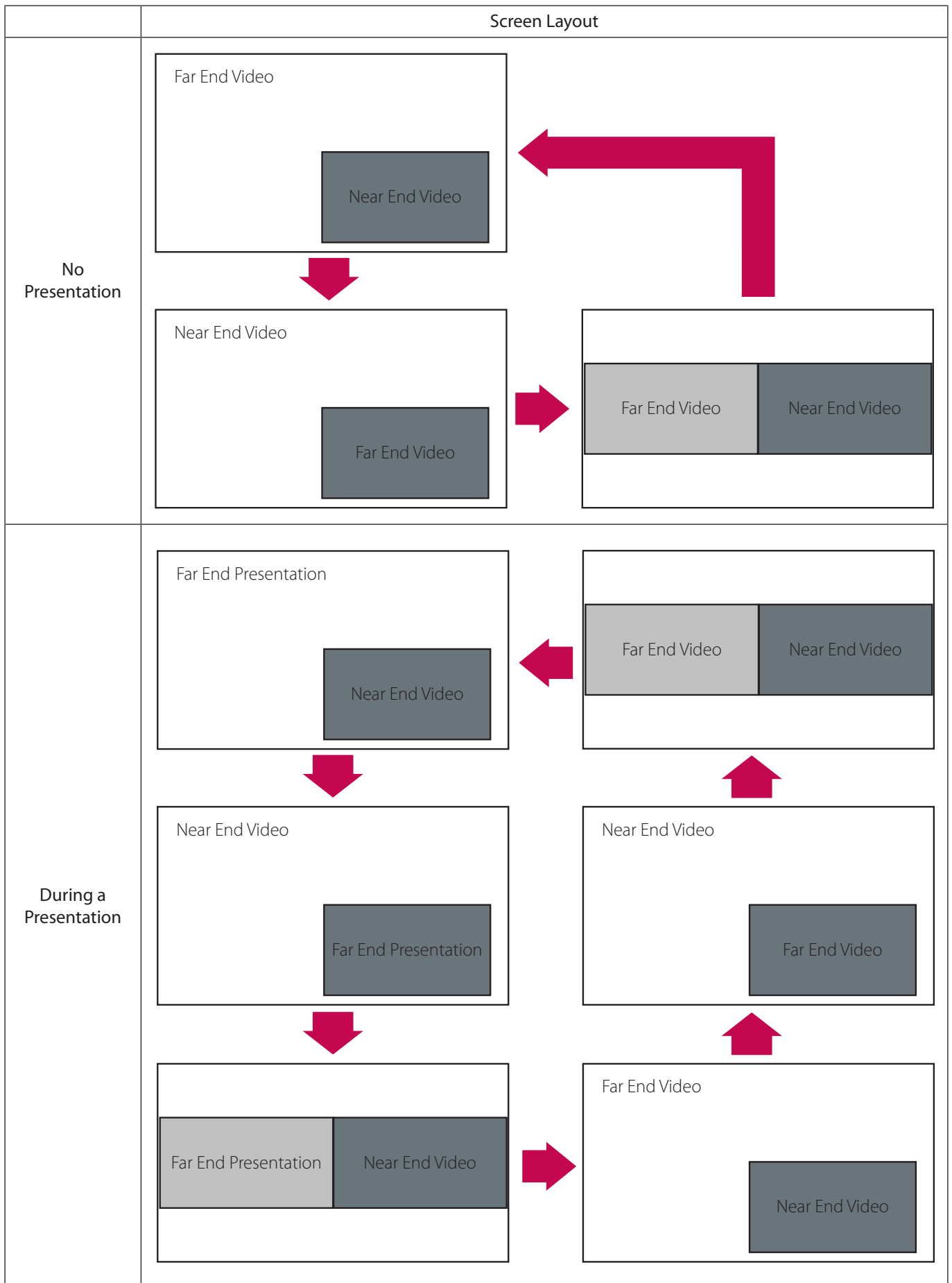
Your display shows the far-end and near-end video conferencing sites in addition to the menus and video images from connected video sources.

Picture-In-Picture (PIP) is a smaller window placed in one of the corners of the call screen. This second image is placed on top of the main image and always displays the primary (near) input by default. You can change the default setting so that PIP never appears or always appears by adjusting the **User Preferences : Appearance : Picture in Picture** preference.

Managing Video Layout



During a call, video from the connected caller appears in your display. You can change the screen layout of near and far end video that appear in the monitor.

To change the screen layout, press the  button.




Viewing Call Statistics

To view statistical information about a call, follow these steps:

1. During a call, press the  button.
2. Audio and video statistics for the current call appear on the screen. Two columns of statistics, Receive and Transmit appear. The total bandwidth used for audio and video appear alongside each column heading. Each column has a video and audio block.
 - Video statistics include the following:
 - resolution shows the resolution, in pixels, of the video image transmitted or received.
 - codec shows the video codec used to compress and decompress the video.
 - bandwidth shows the amount of video data transferred per second in kilobits.
 - frame rate shows the video frame rate in frames per second.
 - Audio statistics include the following:
 - codec shows the audio codec used to compress and decompress the audio.
 - bandwidth shows the amount of audio data transferred per second in kilobits.
 - packet rate shows the amount of audio data packets transferred or received per second in kilobytes.
 - Both the Audio and Video block include the following:
 - jitter shows the variation, in milliseconds, in the time between packets arriving, caused by network congestion, timing drift or route changes.
 - packet loss shows the number of packets of data that fail to reach their destination. Packet loss can be caused by a number of factors, including signal degradation over the network medium, oversaturated network links, corrupted packets rejected in-transit, faulty networking hardware, malformed system drivers or network applications, or normal routing routines.
 - cumulative shows the up to date count of packets lost in the call.
 - percentage shows packet loss as a percentage of the total packets sent.
 - The following additional information appears below the Audio statistics block:
 - the call duration
 - the make and model of the far end video communication device and the software version it is using
 - the call protocol (H.323 or SIP, for example)
3. To hide the statistics, press the  button again. Statistics automatically refresh every 5 seconds and hide after 5 minutes.

Ending a Call

You can end a call using any of the following options:

- hang up  button on the remote control
- Call Manager dialog
- REDIAL list


Ending a Call from the Call Manager

To hang up a call from the Call Manager dialog, follow these steps:

1. From any call screen, press OK.
The Call Manager dialog appears.
2. To hang up a call, press OK again to end the call.

Ending a Call from the REDIAL List

To hang up a call from the REDIAL list, follow these steps:

1. Press the  button to return to the main screen.
2. On the REDIAL list, an orange LED indicator appears to the left of the voice or video number currently in the call. Use the arrow keys to select the entry.
3. Press OK.

Managing the REDIAL List

Locking and Unlocking Entries in the REDIAL List


You can lock and unlock entries in the REDIAL list. Locking an entry prevents it from being removed after the maximum number of entries in the list has been reached. The lock symbol appears next to the name in the entry when the entry is selected.



NOTE


Locking an entry does not prevent it from being removed from the list manually.

To lock or unlock an entry in the REDIAL list, follow these steps:

1. Using the arrow keys on the remote control, select the entry you wish to lock or unlock.
2. Press the  button.
3. Select Lock (or Unlock if the entry is locked) from the menu, and press OK.

Removing an Entry from the REDIAL List

To remove an entry from the REDIAL list, follow steps below:

1. Using the arrow keys on the remote control, select the entry you wish to remove.
2. Press the  button.
3. Select Remove from the menu, and press OK.


Adding a REDIAL List Entry to the Directory

You can add an entry from the REDIAL list to the local directory.



NOTE

An administrator can choose to hide the local directory from users, in which case, a user cannot perform this task.




1. Using the arrow keys on the remote control, select the entry you wish to add to the directory.
2. Press the  button.
3. Select Save on the menu and press OK.
4. Press OK again to close the confirmation dialog.

Managing the Directory

If you have access to the local directory, you can add, remove or edit entries.



Adding an Entry to the Local Directory

You can create up to 1 000 entries in the local directory. To add an entry to the local directory, follow the steps below:

1. Access the directory by pressing the  button from the main screen.
2. Using the arrow keys, select the Local directory.
3. Select the Add New Entry button and press OK.
4. Use the arrow keys to select fields in the New Directory Entry screen. Press OK to enter a value in a selected field. Enter a system name, video and voice numbers, and IP address or ISDN numbers. If necessary, press the  button to change the method of text entry for text fields, or press  to access the keyboard. After entering a value, hide the keyboard (if you used it to enter the value) and press OK to exit the field.
5. If a hierarchy has been predefined for the local directory, in the Hierarchy field enter the path to the location in the hierarchy in which to place the entry. Hierarchies can be defined, for example, by location or department. You must identify the full path (separated by commas) of a predefined hierarchy in which to add an entry prior to completing the new entry screen. If you leave the Hierarchy field empty, the new entry is inserted at the top of the hierarchy (if defined) or is grouped alphabetically.
For example, suppose your administrator defined a hierarchy by location where Home Office is the top of the hierarchy, and Sales Office 1 and Sales Office 2 are at the next level below the Home Office. To place an entry in Sales Office 2, the value for Hierarchy is Home Office, Sales Office 2.
6. When you have completed the fields, select Add Entry and press OK.


Copying an Entry from the Corporate to the Local Directory

You can copy an entry from the corporate directory to the local directory.

1. Access the directory by pressing the  button from the main screen.
2. Select the Corporate directory.
3. Select the entry you wish to copy to the local directory.
4. Press the  button.
5. Select Copy to local and press OK.
6. Press OK to save the entry.



Removing an Entry from the Local Directory

You can remove an entry from the local directory.

1. Access the directory by pressing the button from the main screen.
2. Select the Local directory.
3. Select the entry you wish to remove.
4. Press the  button.
5. Select Remove and press OK.
6. Select Yes and press OK.


Editing an Entry in the Local Directory

You can edit an entry in the local directory.

1. Select the entry you wish to edit.
2. Press the  button.
3. Select Edit from the menu, and press OK.
4. Modify values in the Edit Directory Entry dialog.
 - 4-1. Press OK to select a field you wish to modify. If necessary, press the  button to change the method of text entry for text fields.
 - 4-2. After completing your changes, press OK to exit the field.
5. Using the arrow keys, select Save Changes and press OK.

Adding an Entry to the Meetings Directory

To add an entry to the meetings directory, follow the steps below:





1. Access the directory by pressing the  button from the main screen.
2. Using the arrow buttons, select the meetings directory and press OK.
3. Select the [Add New Entry] button and press OK.
4. Select the Meeting Name option and enter the meeting name.
5. Select the Hierarchy option and enter the hierarchy name.
6. Select the directory among the Local, Corporate and Both and press OK.
7. Select the entry you wish to add from the Available Entries list and press OK. You can add only the one entry for the participants.
8. Select the [Add Meeting] button and press OK.

5

Monitor settings

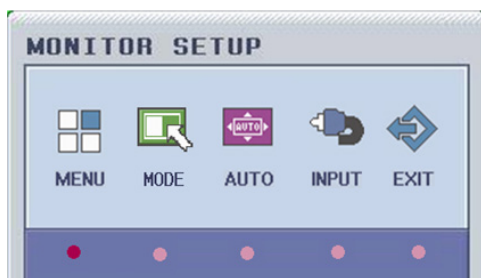
Customizing OSD settings

Navigation button overview

Button	OSD	Description
MENU		<ul style="list-style-type: none"> Displays the main menu. Enter the MENU option. Move to the previous menu.
MODE		<ul style="list-style-type: none"> Displays the main menu. Enter the MODE option. Select the sub-menu title. Decrease the option value.
AUTO		<ul style="list-style-type: none"> Displays the main menu. Set the image adjustment automatically. Increase the option value.
INPUT		<ul style="list-style-type: none"> Displays the main menu. Change the input source. Enter the sub-menu option. Select the sub-menu option.
EXIT	EXIT	Exit the OSD setup menu.

MENU settings

1. Press the MENU button to access the main menu.



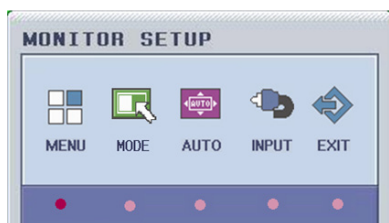
2. Press the MENU button again to display the sub-menu.
3. Use the MODE or AUTO button to select the sub-menu title.
4. Press the INPUT button to enter the selected sub-menu.
5. Use the INPUT button to select the options.
6. Use the MODE or AUTO button to set the value.
7. Press the MENU button to return to the previous menu.
8. Press the EXIT button to exit the menu.

MENU		Supported Input	Description
PICTURE	BRIGHTNESS	HDMI (Digital signal input.) D-SUB (Analog signal input.)	You can adjust the level of the Brightness. The lower the level, the softer the image.
	CONTRAST		You can adjust the level of the Contrast. Increases or decreases the gradient of the video signal.
	SHARPNESS		You can adjust the level of the Sharpness..
	BLACK LEVEL	HDMI (Digital signal input.)	Sets black level of the screen to proper level. This function is available in the HDMI mode only. <ul style="list-style-type: none"> LOW: The reflection of the screen gets darker. HIGH: The reflection of the screen gets brighter.
COLOR	COLOR TEMP	HDMI (Digital signal input.) D-SUB (Analog signal input.)	Select PRESET or USER option to set the value.
	PRESET		Select the screen color. <ul style="list-style-type: none"> sRGB: Set the screen color to fit the sRGB standard color specification. 6500K: Slightly reddish white. 7500K/8500K: Set the screen color to default value. 9300K: Slightly bluish white.
	RED		This option is activated when you select the [COLOR TEMP] option to [USER]. Set your own red color levels.
	GREEN		This option is activated when you select the [COLOR TEMP] option to [USER]. Set your own green color levels
	BLUE		This option is activated when you select the [COLOR TEMP] option to [USER]. Set your own blue color levels.
	GAMMA		Set your own gamma value. : GAMMA0 / GAMMA1 / GAMMA2 On the monitor, high gamma values display whitish images and low gamma values display blackish images.
DISPLAY	HORIZONTAL	D-SUB (Analog signal input.)	To move image left and right.
	VERTICAL		To move image up and down.
	CLOCK		To minimize any vertical bars or stripes visible on the screen background. The horizontal screen size will also change.
	PHASE		To adjust the focus of the display. This item allows you to remove any horizontal noise and clear or sharpen the image of characters.
	OVERSCAN	HDMI (Digital signal input.)	If you set to [ON], the overscan function is activated. This function is available in the HDMI mode only.
VOLUME	-	HDMI (Digital signal input.) D-SUB (Analog signal input.)	Use the MODE or AUTO button to adjust the output volume. If you press INPUT again, the system volume is muted.

OTHERS	LANGUAGE	HDMI (Digital signal input.) D-SUB (Analog signal input.)	To choose the language in which the control names are displayed.
	POWER INDICATOR	HDMI (Digital signal input.) D-SUB (Analog signal input.)	Use this function to set the power indicator on the front side of the monitor to ON or OFF. If you set OFF, it will go off. If you set ON at any time, the power indicator will automatically be turned on.
	WHITE BALANCE	D-SUB (Analog signal input.)	If the output of the video card is different to the required specifications, the color level may deteriorate due to video signal distortion. Using this function, the signal level is adjusted to fit into the standard output level of the video card in order to provide the optimal image. Activate this function when white and black colors are present in the screen.
	FACTORY RESET	HDMI (Digital signal input.) D-SUB (Analog signal input.)	If you press MODE or AUTO button, restore all factory default settings except "LANGUAGE."

MODE settings

1. Press the MODE button to access the main menu.



2. Press MODE button again to display the sub-menu.
3. Use the MODE or AUTO button to select the sub-menu title.
4. Press INPUT button to enter the selected sub-menu.
5. Use the MODE or AUTO button to select or set the options.
6. Press the MENU button to return to the previous menu.
7. Press the EXIT button to exit the menu.

MENU		Description
<i>f</i> •ENGINE	STANDARD	Adjusts the image for the normal environment.
	MOVIE	Optimizes the video image for a cinematic look to enjoy movies as if you are in a movie theater.
	GAME	Optimizes the video image for a fast gaming screen such as on PCs or games.
	SPORTS	Optimizes the video image for high and dynamic action by emphasizing primary colors such as white, grass, or sky blue.
ORIGINAL RATIO	WIDE	Switch to full screen mode according to input image signal.
	ORIGINAL	Change the input image signal ratio to original. This function works only if input resolution is lower than monitor ratio (16:9).
PHOTO EFFECT	NORMAL	The PhotoEffect function is disabled.
	GAUSSIAN BLUR	This menu changes the screen to be more colorful and smoother.
	SEPIA	This menu changes the screen to a Sepia tone (brown color).
	MONOCHROME	This menu changes the screen to a Gray tone (black-and-white Picture).

6 Troubleshooting

Check the following guide for the possible cause of a problem before contacting service.

Symptoms	Solutions
The system power does not turn on.	Check the power cable is connected correctly.
	Check the input voltage is correct.
	Check the main power switch is turned on.
	If the system power does not turn on even if the power cable is connected correctly, please contact the service center.
The system power is turned on but no video data is displayed on the monitor.	Check the input mode of the system. Make sure the mode is set to VCS.
	Unplug the power cable and plug in again.
The subject is not clear enough to see.	Adjust the camera brightness and white balance in User Preferences : Diagnostics setting menu.
The remote control is not working.	Check the battery.
	Make sure that the battery polarities are connected with (+) and (-) matched correctly.
	Check the remote control contains three AAA batteries that are in good working condition.
	Verify whether objects are obstructing the sensor on the front of the camera.
	Check that the LED on front of the camera flashes bright blue when you use the remote control.
The image is not visible.	Verify that the blue LED on the front of the camera is lit, indicating that power is active, and reboot the system if necessary to verify that the camera turns on.
The sound is not audible	If you are unable to hear the ringer when an incoming call arrives, adjust the Ring Tone Volume preference in User Preferences : Audio. Muffled audio reception from the far side may be caused by highly reverberant rooms. If you are experiencing poor audio reception, add more sound absorbency to the room and speak in close proximity to the microphone.
	Degradation in audio quality can also be caused by faulty microphones or dust and debris on the microphones. Do not use any kind of liquid or aerosol cleaner on the camera that includes microphones. A soft, slightly damp cloth is sufficient to clean the top surface of the units if necessary.
	Ensure both ends are not muted. Verify that the audio out cables are properly connected to the monitor and that any external speaker systems are powered and configured correctly.

You can not make a call.	If a call does not successfully connect, verify that you have dialed a working number and that the far end destination is powered on and available. Verify that the network is ready and available. Network status is indicated at all times in the status bar. If the VCS system is connected to the local network, a green network status icon appears. A yellow or red network status icon indicates a problem with the network connection.
The system does not work with the remote control.	Reboot the system that is not responding to commands from the remote control.
The message "OUT OF RANGE" appears on the screen.	This message appears when the signal from the PC (video card) is out of horizontal or vertical frequency range of the display. See the 'Specifications' section of this manual and configure your display again.
The message "CHECK SIGNAL CABLE" appears on the screen.	This message appears when the signal cable between your PC and your display is not connected. Check the signal cable and try again.
The message "OSD LOCKED" appears on the screen	You can secure the current control settings, so that they cannot be inadvertently changed. You can unlock the OSD controls at any time by pushing the MENU button for several seconds: the message "OSD UNLOCKED" will appear.
Display Position is incorrect.	Press the AUTO button to automatically adjust your display image to the ideal setting. If the results are unsatisfactory, adjust the image position using the H position and V position icons in the on-screen display.
On the screen background, vertical bars or stripes are visible.	Press the AUTO button to automatically adjust your display image to the ideal setting. If the results are unsatisfactory, decrease the vertical bars or stripes using the CLOCK icon in the on-screen display.
Any horizontal noise appearing in any image or characters are not clearly portrayed.	Press the AUTO button to automatically adjust your display image to the ideal setting. If the results are unsatisfactory, decrease the horizontal bars using the PHASE icon in the on-screen display.
Do you see an "Unrecognized monitor, Plug&Play (VESA DDC) monitor found" message?	Make sure you check if the video card supports Plug&Play function.

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Appendix

Specifications

ITEM		Specification	
Monitor	Viewable image size	60.96 cm Full HD	
	Brightness, Typical	300 cd/m ²	
	Contrast Ratio, Typical	1000:1	
	DFC	5M:1	
	Response Time, Typical	5 ms	
	Display frequency range	1 920 x 1 080 @ 60 Hz	
	Display color	16.7M	
	Digital Controls with	15 Languages OSD	
	DDC2B	Yes	
	EDID	VESA Standard, Version 1.3	
Communication		H.323, SIP	
Video	Video Input	Signal Input 15 pin D-Sub Connector HDMI Connector Input Form RGB Analog (0.7 Vp-p/75 Ω), Digital	
	Video standard	H.261, H.263, H.263+, H.263++, MPEG4, H.264AVC H.239 (receive) compliant	
	Resolution	Maximum resolutions widescreen 16:9 aspect ratio	
		All resolutions progressive scanning	
		All resolutions at 30 frames per second	
		192 Kbps (432 x 240 pixels) Widescreen FCIF	
		384 Kbps (720 x 400 pixels) Cable TV	
		512 Kbps (800 x 448 pixels) DVD resolution	
		768 Kbps (1 024 x 576 pixels) 2xDVD Resolution	
1.1 Mbps or higher (1 280 x 720 pixels) High Definition resolution			

Camera		Wide-angle lens with 70 degree field of view
		6 mm, 1.3 Mega pixels HD Color fixed camera
		1 280 x720p @ 25 to 30 fps Resolution
		Built-in high sensitivity Microphone
Audio standard		G.711, G.722, G.722.1C, G723.1, G.728, G.729, G729a, MPEG-4 -AAC-LC
		High Definition audio
		Built-in ringer
		Echo cancellation for echo-free calls
		Automatic noise reduction (Noise suppression) / Comfort Noise Fill
		Automatic gain control
Other Supported Standards		H.221, H.224, H.225, H.231, H.241, H.242, H.245, H.281,
		BONDING (ISO13871) via LifeSize Networker, RFC 3261,
		RFC 3264, RFC 2190, RFC 3407, RFC 2833
Feature	User Interface	Context sensitive user interface
		Graphical user interface call manager
		Multiple languages supported
		Do Not Disturb mode
		Auto Call Establishment
		Call Scheduling
		Diagnostic logging
		Web Interface
		Directory Service (H.350)
		System Log Reporting
		Data sharing
	Network	Software Upgrade via internet
		Far-End Camera Control (H.224/H.281)
		IPv4 & IPv6
		AES (FIPS197, H.234/H.235)
		NAT / Firewall Client (H.460.17/18/19)
		IP Precedence for QoS
		DiffServ (Differentiated Service)for QoS
		RSVP (Resource Reservation Protocol)for QoS
Adaptive Motion Control (AMC)for QoS		

	Directory & Address Book	Up to 500 local directory entries
		Save, Lock, Remove Redial List features
		Missed call notification
		Auto-Discovery directory lookup (patent pending)
		LDAP support / H.350 compliant
	System Management	SNMP
		Backup and Restore capability
Security		Admin and User level password
		SNMP security alerts
		Ability to disable HTTP, SSH and Telnet services
		H.235 (AES) encryption support including strict compliance
		TLS/SRTP support
		IEEE 802.1x support
Power		AC Voltage 100-240 V, 50/60 Hz, 63 W (1.5 A)
Environmental Data	Operating temperature	0 °C (32 F) to 40 °C (104 F)
	Operating Humidity	15 % to 85 %, non-condensing
	Storage temperature	-20 °C (-4 F) to 60 °C (140 F)
	Storage humidity	10 % to 90 %, non-condensing
Dimensions	Width	600 mm
	Depth	131 mm
	Height	499 mm
	Weight	8.1 kg
Regulatory Certifications		FCC , cUL, CE/CB, C-tick, TUV-bauart, CCC, JQA, VCCI, KC, KCC
Interface		2 x RJ-45 (Network LAN, PC In)
		1x HDMI In
		1x D-Sub In
		1x Mic in
		1x Headphone out

WARRANTY CARD

END USER Name	Product
Address of END USER	Model
	Serial No
Telephone	Dealer Name
Fax	Dealer Address
Email Address	Dealer Telephone
Date of Purchase(yyyy-mm--dd)	Dealer Fax
Invoice No.	Dealer E-Mail

1. The warranty card should be completed in full and returned to the dealer within 10 days of purchase. Failure to do so will make the warranty void.
2. The END USER must fill out the completed warranty card, together with the original invoice to the official dealer from which the END USER purchased the product within the warranty period.
3. Warranty service provided is subject to the terms and conditions described on the relevant side.

Terms and Conditions

- 1) This Warranty applies for the following from the date of purchase only. The right to request sight of the original proof of purchase is reserved.
 - a. 12 months for Hardware
 - b. 3 months for Software
- 2) It is the user's responsibility to ensure that the product is used in accordance with the Manufacturer's guidelines detailed in the Instruction Manual supplied with your Video Conference Monitor. Failure to do so may invalidate your Warranty.
- 3) All warranties will be immediately invalidated if unauthorized repairs or modifications are made to the monitor or in any case of accident, misuse, damage caused by improper installation and altered serial numbers. Pollution of the monitor with smoke, food, liquid or similar will be deemed as misuse.
- 4) When this product is sold through LG Electronics' resale or distribution partners, LG Electronics reserves the right to collect, repair and return any monitor which has cabinet defilement, including security marking. LG Electronics may also collect units for repair where no suitable replacement is available.

- 5) When this product is sold through LifeSize's resale or distribution partners, LifeSize reserves the right to collect repair and return any monitor which has cabinet defilement, including security marking. LifeSize may also collect units for repair where no suitable replacement is available.
- 6) The END USER will be liable for all costs associated with "Invalid Warranty Claims".
- 7) Liability is limited to the cost of repair and/or replacement of the unit under warranty.
- 8) This warranty does not affect the purchaser's statutory rights.
- 9) Warranty covers only those defects which arise as a result of normal use of the product, and the warranty for the product is deemed void if ;
 - a) The content of the warranty card has been changed, unless certified by an authorized dealer.
 - b) The serial number has been altered or removed.
 - c) The product has been damaged through misuse, negligence, fault of voltage supply, improper testing, incorrect operation or natural disaster.
 - d) The product has been subject to unauthorized alternating, modification or maintenance by a person other than authorized by LG Electronics or LifeSize or an Authorized Dealer.
 - e) The product is not installed in accordance with the instructions furnished by the manufacturer.
 - f) The END USER fails to provide a warranty card or invoice.
 - g) The warranty period is over the due term
- 10) This warranty does not cover the damage done to other equipment used in conjunction with this unit.
- 11) All defective peripheral devices should be returned together with the whole unit.
- 12) LG Electronics(or LifeSize) reserves the right to substitute functionally equivalent new or serviceable used parts,LG Electronics(or LifeSize)'s responsibility is limited to repair, using any parts which may be selected by LG Electronics or LifeSize or an authorized dealer. Unless otherwise stated herein, the cost of labor is not covered by the warranty.
- 13) The warranty is valid within the country where the authorized dealer distributes the product.
- 14) This warranty card will not be re-issued.
- 15) END USER information provided herewith may be used by LG Electronics(or LifeSize) for the purpose of provision of product repair related services and for conducting END USER satisfaction surveys, as deemed necessary by LG Electronics (or LifeSize)
- 16) Under no circumstances shall LG Electronics (or LifeSize) be liable for any consequential damage caused by the use of a defective product.

